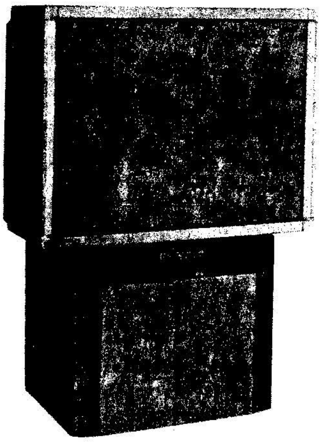
RVP-6000QM
RM-1270

SERVICE MANUAL

AEP Model

Chassis No. SCC-D82A-A



Note: The service manual for RM-1270 has been issued separatly.

MODELS OF THE SAME SERIES	
RVP-6000QM	HDIH-3000M
HDIR-550M	
VPH-1270QM	

SPECIFICATIONS

Optical

Projection system	3 picture tubes, 3 lenses, Horizontal inline system, Rear projection type
Picture tube	7-inch high-brightness monochrome tubes, with coolant sealed
Projection lens	HACC (High-resolution Aspherical and Color Corrected) lenses F 1.1/116 mm
Projected picture size	Factory-adjusted to 60 inches measured diagonally
Luminance	150 ft-L (white peak)

General

Color system	PAL, SECAM, NTSC and NTSC$_{4.43}$ systems, switched automatically
Resolution	1280 DOTs (RGB input at 15 kHz) 700 TV lines (VIDEO input)
RGB inputs	Horizontal frequency: 15 kHz – 65 kHz Vertical frequency: 38 Hz – 150 Hz
Test signal	Cross hair test pattern generator is incorporated.
Speaker	Total 10 W + 10 W

Inputs

VIDEO input

VIDEO IN
- Y/C: 4-pin mini DIN connector
  - Y (luminance) signal: 1 Vp-p±2dB, sync negative, 75 ohms terminated
  - C (chrominance) signal: burst 0.286 Vp-p±2dB, 75 ohms terminated (NTSC)
    0.3 Vp-p±2dB, 75 ohms teminated (PAL)
- VIDEO: BNC connector
  - Composite video input, 1 Vp-p±2dB, sync negative, 75 ohms terminated

AUDIO IN: phono jack
- 435 mVrms, Impedance: more than 47 kohms

— Continued on next page —

MICROFILM

COLOR VIDEO PROJECTOR

SONY®

	RGB input R: BNC connector Red input, 0.7 Vp-p±2dB, 75 ohms terminated, positive G/G SYNC: BNC connector Green input, 0.7 Vp-p±2dB, 75 ohms terminated, positive Green with sync input, 1 Vp-p±2dB, 75 ohms terminated, positive B: BNC connector Blue input, 0.7 Vp-p±2dB, 75 ohms terminated, positive SYNC/HD: BNC connector Composite sync input, 0.3–4 Vp-p, 75 ohms terminated, positive/negative Horizontal sync input, 0.3–4 Vp-p, 75 ohms terminated, positive/ negative VD: BNC connector Vertical sync input, 0.3–4 Vp-p, 75 ohms terminated, positive/ negative AUDIO IN L (MONO)/R: phono jacks REMOTE 1 connector: 14-pin connector (see "Signal assignment") REMOTE 2 connector: 9-pin connector (see "Signal assignment") CONTROL S IN: minijack, 5 Vp-p
Outputs	VIDEO OUT: BNC connector Composite video output, 1 Vp-p±2dB, impedance 75 ohms, output video signal from the VIDEO IN connector CONTROL S OUT: minijack, 5Vp-p
Power requirements	RVP-6000Q: 120 V AC, 50/60Hz RVP-6000QM: 220–240 V AC, 50/60 Hz
Power consumption	430 W (Video input) 480 W (RGB input)
Dimensions	1,340 × 1,815 × 990 mm (w/h/d) ($52^{7}/_{8} \times 71^{1}/_{2} \times 39$ inches)
Weight	Approx 210 kg (462 lb 16 oz)
Accessories supplied	Remote Commander RM-1270 (1) with 3 R6 (AA) batteries Remote Commander cable (1) AC power cord (1)

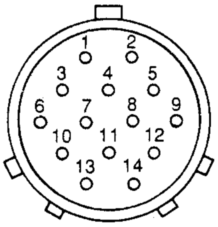
Optional accessories

Shielded cable	SMF-506 (D-sub 25-pin ↔ 4 BNC)
CCQ BRS cables	
Interface board	IFB-10 (5 BNC) IFB-20 (9-pin) IFB-30 (9-pin) IFB-1000 (9-pin) (Video, Y/C)
Signal interfaceswitcher	PC-1270/1270M

Signal assignment

REMOTE 1 connector (14-pin)

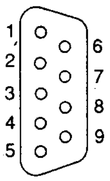
Pin No.	Signal
1	GND
2	HD/Composite Sync
3	SIRCS
4	NC
5	GND(SIRCS)
6	B/C
7	GND(B/C)
8	GND(G/Y)
9	G/Y
10	RGB/Video
11	R/Composite Video
12	Composite Video/YC
13	AUDIO
14	VD



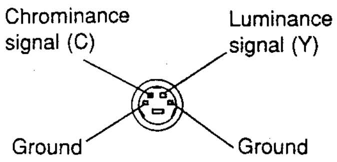
REMOTE 2 connector (D-sub 9-pin)

Pin No.	Signal
1	Frame Ground
2	$\overline{\text{Transit A}}$
3	Receive B
4	Receive Common
5	Spare
6	Transmit Common
7	Transmit B
8	$\overline{\text{Receive A}}$
9	Frame Ground

RS-422 format



Y/C Connector (4-pin mini: DIN)


Chrominance signal (C)
Luminance signal (Y)
Ground
Ground

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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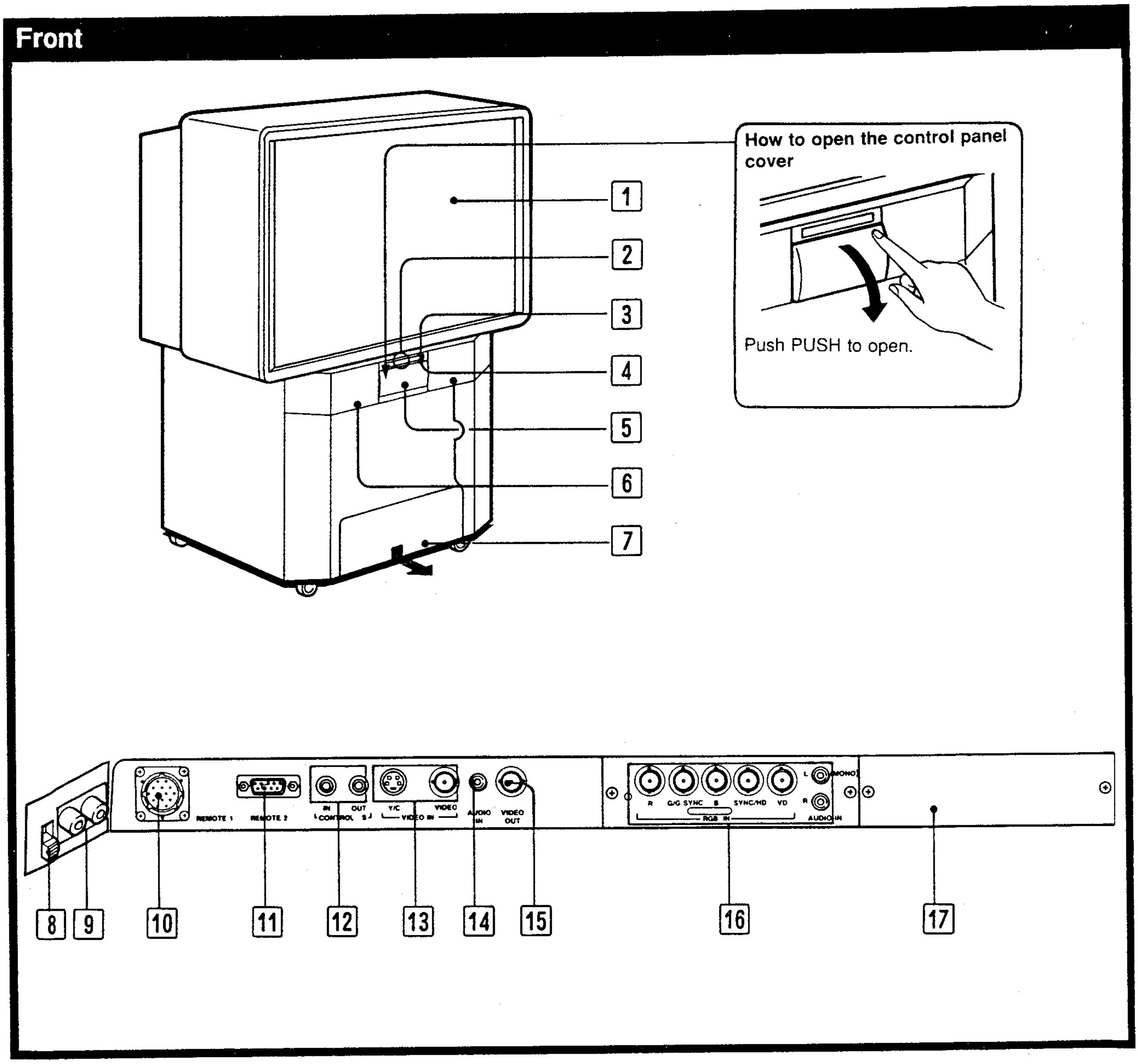
SECTION 1
GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS


Front
1
2
3
4
5
6
7
How to open the control panel cover
Push PUSH to open.
REMOTE 1
REMOTE 2
IN
OUT
CONTROL S
Y/C
VIDEO
VIDEO IN
AUDIO IN
VIDEO OUT
R
G/G SYNC
B
SYNC/HD
VD
RGB IN
L
MONO
R
AUDIO IN
8
9
10
11
12
13
14
15
16
17

1 Screen

2 Remote control detector

3 POWER indicator
Green indicator is on when the power is turned on.

4 STANDBY indicator
When the MAIN POWER is on, the red light indicating standby will be on. When the red light is on, the projector can be controlled with the Remote Commander.

Note
When the MAIN POWER is turned off, there will be a slight delay before the red light goes off.

5 Control panel
The keys inside the panel cover are the same as the Remote Commander.

6 Speaker

7 Connector cover
The location of the connector is indicated on the back.

8 SPEAKER switch
Set to ON to use the built-in speakers.
Set to OFF when you do not use the built-in speakers.

9 AUDIO OUT (VARIABLE) connectors
Connect to an audio amplifier. The output level can be adjusted with the VOL keys of the supplied Remote Commander.

10 **REMOTE 1 connector** (14 pin)
Connect to REMOTE 1 connector of the optional switcher PC-1270/1270M.

11 **REMOTE 2 connector** (9 pin)
Connect RSS-422 interface for interactive communication with the external equipment. Take off the red cap before use.

12 **CONTROL S IN/OUT connectors**
Connect to the CONTROL S connectors of other Sony equipment. It is then possible to control the whole system with a single Remote Commander.
CONTROL S IN: Connect to the CONTROL S OUT of the Remote Commander to be used as a wired commander.

13 **VIDEO IN connectors**
Y/C (4-pin): Connect to the Y/C output of a VCR.
VIDEO (BNC type): Connect to the video out put of a video equipment.

Note
The VIDEO connector is disconnected automatically when a cable is connected to the Y/C connector.

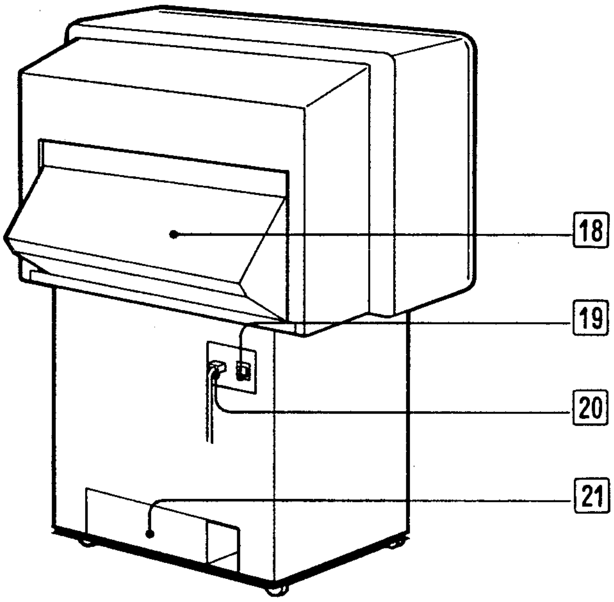
14 **AUDIO IN jack** (phono)
Connect to the audio output of video equipment.

15 **VIDEO OUT connector** (BNC type)
Loop-through output of the VIDEO connector. Connect to the video input of a VCR or another monitor. The signal input from Y/C connector is not output from this connector.

16 **INPUT A connectors** (BNC type)
R, G/G SYNC, B, SYNC/HD, VD connectors:
Connect to the RGB outputs of a computer or a video camera.

17 **INPUT B connectors section**
To expand the system connection, install the optional interface board IFB-10, 20, 30, or 1000.

Rear



18 **Mirror cover**
This can be aligned to the back of the cabinet for transportation.

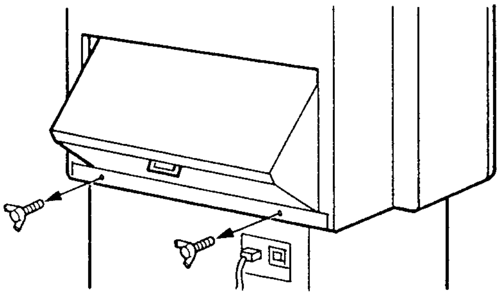
19 **MAIN POWER switch (▂ON/■OFF)**

20 **AC IN socket**
Connect the supplied AC power cord (mains lead).

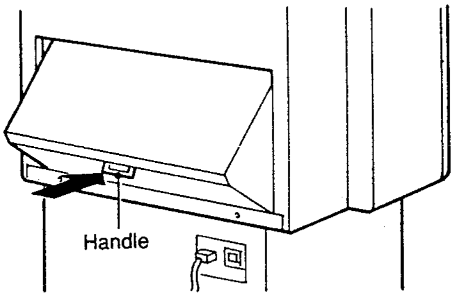
21 **Rack**

How to align the mirror cover to the back of the cabinet for transportation

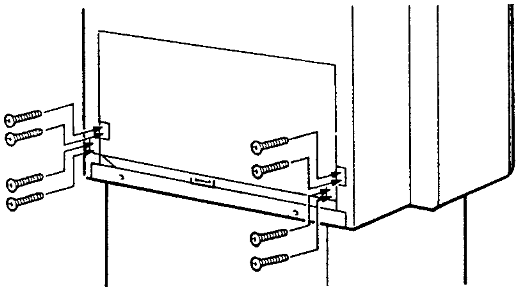
1 Remove the wing screws.



2 Hold the handle, and press the mirror cover into the cabinet until it clicks.



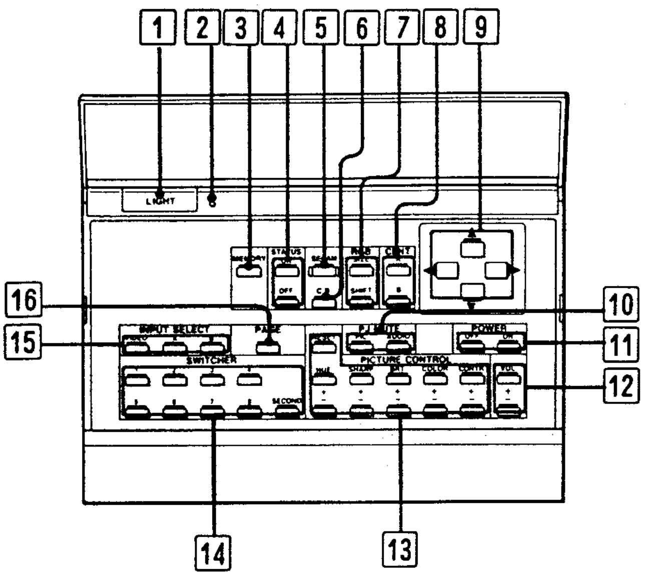
3 Secure the mirror cover with the metal plate.

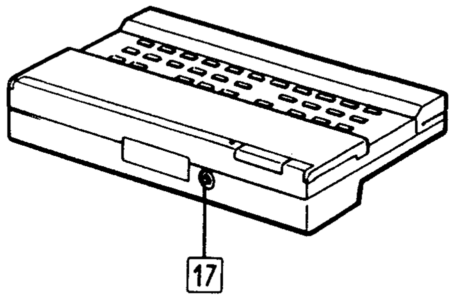


After transportation, pull the mirror cover fully out and secure it with the wing screws.

Remote Commander RM-1270

The same keys are inside the control panel of the projector.





1 **LIGHT button**
Press to illuminate the indications on the Commander. The light will go off in about 10 seconds after the operation.

2 **Indicator**
Lights when any of the buttons on the Commander is pressed. If the indicator does not light, battery replacement is required.

3 **MEMORY key**
Press to store the adjustment data.

4 **STATUS ON/OFF key**
Press OFF key to cut the on-screen display. However, PAGE is displayed even when in OFF mode. "OFF" indication will be displayed if a key is pressed when in OFF mode. Press ON key to restore the on-screen display.

5 **SECAM key**
Press when the color of a picture from SECAM color source is incorrect. Press again to switch over to other standard system sources, NTSC or PAL.

6 **C.B.** (Clear Blue) **key**
Press to make the blue color clear in the picture input from RGB IN connectors. Press again to restore the normal condition.

7 **RGB SIZE/SHIFT keys**
Press to adjust the picture input from RGB IN connectors.

SIZE: Press to enter the size adjustment mode. The size adjustment of the picture is performed using the four arrow keys.

◄ ....to reduce horizontal size
► ....to expand horizontal size
▲ ....to expand vertical size
▼ ....to reduce vertical size

SHIFT: Press to enter the shift adjustment mode. The shift adjustment of the picture is performed using the four arrow keys. The picture shifts according to the direction of the arrow.

8 **CENT R/B keys**
Press for centering adjustments of the red or blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
The centering adjustments are performed using the four arrow keys.

9 **Arrow keys**
Used for various adjustment functions.

10 **PJ MUTE keys**

PIC: Press to cut off the picture. To restore the picture, press PIC again or CONTR +.

AUDIO: Press to cut off the sound. To restore the previous sound level, press AUDIO again or VOL +.

11 **POWER ON/OFF keys**
Press to turn on and off the projector (when the MAIN POWER is ON).

12 **VOL +/– keys**
Press to adjust volume.
+: to increase volume
–: to decrease volume

13 **PICTURE CONTROL keys**
Press to adjust picture condition: hue, sharpness, brightness, color, and contrast. Press RESET key to restore the factory preset levels

14 **SWITCHER keys**
When the PC-1270/1270M switcher is connected to the projector, press the number key to select the input from the switcher. SECOND key is used when there are two switchers. To control the second switcher (SINGLE/ SECOND/REMOTE switch is set to SECOND), first press SECOND key and then the number key.

15 **INPUT SELECT keys**
Press to select the input signal.

VIDEO:	to select the signal input from VIDEO IN (Y/C or VIDEO) connectors
A:	to select the signal input from RGB IN connectors
B:	to select the signal input from the connectors of "B" section (optional interface board)

Note
For the location of "A" and "B", see page 12.

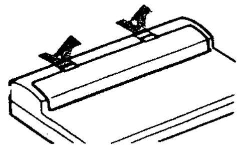
16 **PAGE key**
Press to display and switch the following four on-screen displays. (On PAGE 1, 2, and 3, adjustment can also be done.)

PAGE 1: Displays STATUS ON/OFF, PIC MUTE ON/OFF, AUDIO MUTE ON/OFF, CLEAR BLUE ON/OFF, and SECAM ON/OFF.
PAGE 2: Displays the picture conditions; contrast, color, brightness, sharpness, hue, and volume levels.
PAGE 3: Displays the color temperature level.
PAGE 4: Displays the input signal conditions; fH, fV, H/C-sync, V-sync, Sync on Green, and input signal.

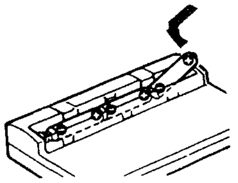
17 **CONTROL S OUT connector**
Connect the supplied cable to this connector and to CONTROL S IN connector of the projector for wired Commander application.

Battery installation

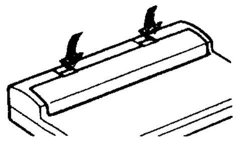
1 **Push to open the lid.**



2 **Install three R6 (AA) batteries with the correct polarity.**

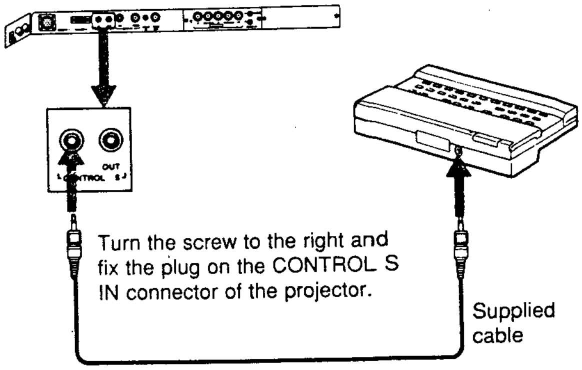


3 **Replace the lid.**



- If the projector does not operate properly, the batteries might be worn out. Replace all of them with new batteries.
- The life of the batteries depends on how often you use the Commander. If they wear out quickly, replace them with new alkaline batteries.
- To avoid damage from possible battery leakage, remove the batteries when the Commander will not be used for a long time.
- Be sure that there are no obstructions between the Commander and the unit.
- Operable range is limited. The shorter the distance between the Commander and the projector, the wider the angle within which the Commander can control the projector.

To connect the Remote Commander to the projector



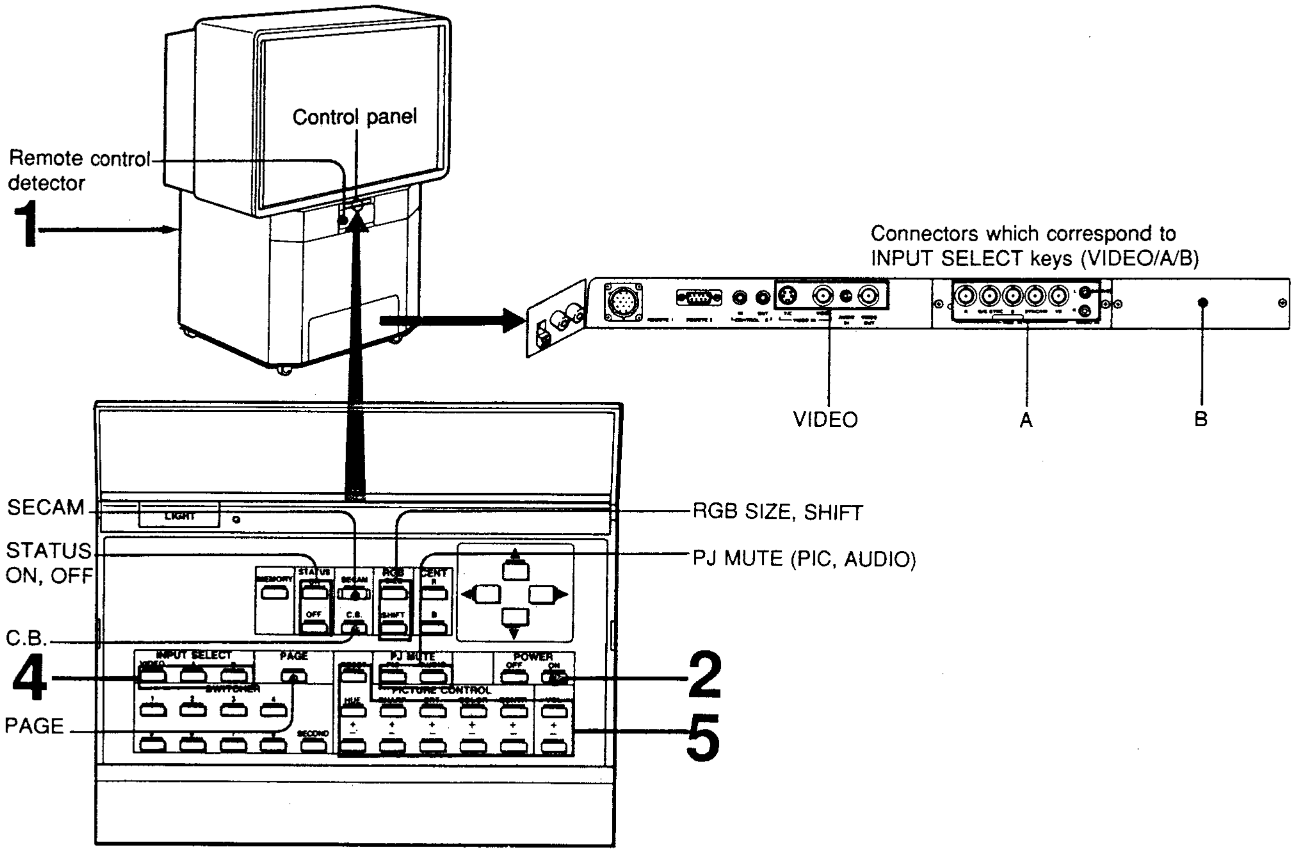
Turn the screw to the right and fix the plug on the CONTROL S IN connector of the projector.

Supplied cable

- When the connection is made, the remote control detectors of the projector will not function.
- For wireless operation, make sure to disconnect both plugs after using the Commander wired.

1-2. PROJECTING

The keys on the control panel of the projector are the same as those found on the Remote Commander.


Control panel
Remote control detector
1
Connectors which correspond to INPUT SELECT keys (VIDEO/A/B)
VIDEO
A
B
SECAM
STATUS ON, OFF
C.B.
4
PAGE
RGB SIZE, SHIFT
PJ MUTE (PIC, AUDIO)
2
5
LIGHT
MEMORY
STATUS
OFF
SECAM
C.B.
RGB
SHIFT
CENT
INPUT SELECT
PAGE
SWITCHER
SECOND
PJ MUTE
POWER
OFF
ON
PICTURE CONTROL

1 **Depress MAIN POWER switch at the rear (▬ ON).**

2 **Press POWER ON key on the Remote Commander or the control panel.**

3 **Turn on the connected equipment.**

4 **Select the input signal to be projected by pressing INPUT SELECT key** (VIDEO, A or B).

VIDEO: to select the signal input from VIDEO IN (Y/C or VIDEO) connectors
A: to select the signal input from RGB IN connectors
B: to select the signal input from the connectors of "B" section (optional interface board)

5 **Adjust the picture and sound.**

To cut the on-screen display

Press STATUS OFF key.
However, PAGE is displayed even when in OFF mode.
To restore the on-screen display, press STATUS ON key.

To cut off the sound or picture

To mute the sound
Press PJ MUTE AUDIO key. To restore the previous sound level, press PJ MUTE AUDIO key again or VOL + key.

To cut off the picture
Press PJ MUTE PIC key. To restore the previous brightness level, press PJ MUTE PIC key again or CONTR + key.

Notes on projecting a picture input from RGB IN connectors

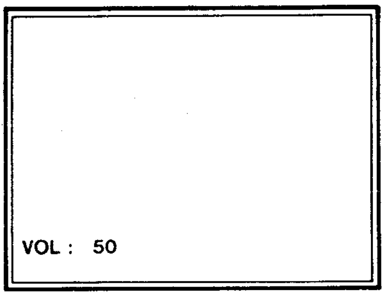
- To make the blue color clear, press C.B. key. Press again to restore the normal condition.
- If necessary, adjust the size and shift of the picture using the RGB SIZE/SHIFT and arrow keys.

If the SECAM color source is incorrect

Press SECAM key. Press again to switch over to other standard system sources, NTSC or PAL.
If you wish to keep the C.B. ON/OFF or SECAM ON/OFF setting, store the data (see page 18).

Adjusting the Picture and Sound

Use the VOL and PICTURE CONTROL keys on the Remote Commander.
The adjustment levels are digitally displayed on the screen having a range of MIN, 1, 2, ..., 98, 99, MAX.



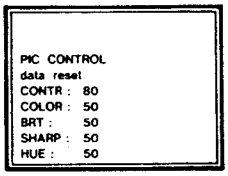
VOL : 50

VOL +/– keys	+ : to increase volume – : to decrease volume
CONTR +/– keys	+ : to increase picture contrast – : to decrease picture contrast
COLOR +/– keys	+ : to increase color intensity – : to decrease color intensity
BRT +/– keys	+ : to make the picture brighter – : to make the picture darker
SHARP +/– keys	+ : to make the picture sharper – : to make the picture softer
HUE +/– keys	+ : to make skin tones greenish – : to make skin tones purplish

- COLOR, SHARP and HUE controls do not function on the picture input from RGB IN.
- HUE control does not function with PAL or SECAM color source.

To restore the factory preset levels

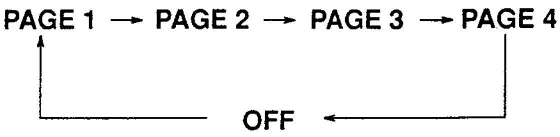
Press RESET key. The factory preset levels will be displayed on the screen.



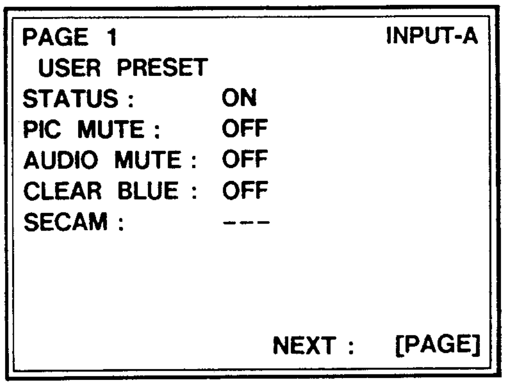
PIC CONTROL
data reset
CONTR : 80
COLOR : 50
BRT : 50
SHARP : 50
HUE : 50

To Display the Current Control Settings and Conditions

Press PAGE key for displaying the following four on-screen displays. Adjustment can also be done on PAGE 1, 2, and 3. The displays will switch as follows every time PAGE key is pressed:



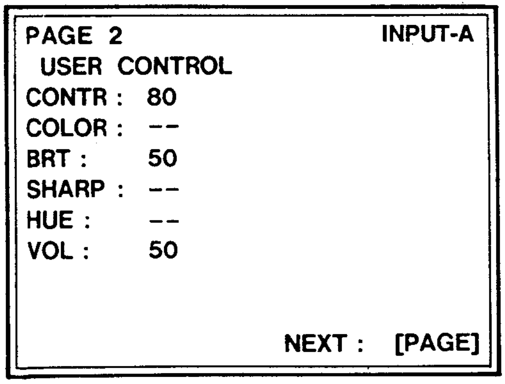
PAGE 1



```
PAGE  1                    INPUT-A
 USER  PRESET
STATUS :          ON
PIC  MUTE :       OFF
AUDIO  MUTE :     OFF
CLEAR  BLUE :     OFF
SECAM :           ---

                 NEXT :    [PAGE]
```

The STATUS ON/OFF, PIC MUTE ON/OFF, AUDIO MUTE ON/OFF, CLEAR BLUE (C.B.) ON/OFF, and SECAM ON/OFF settings are displayed. "— —" indicates that the control does not function with the current input signal.
To change the settings, adjust with appropriate key.

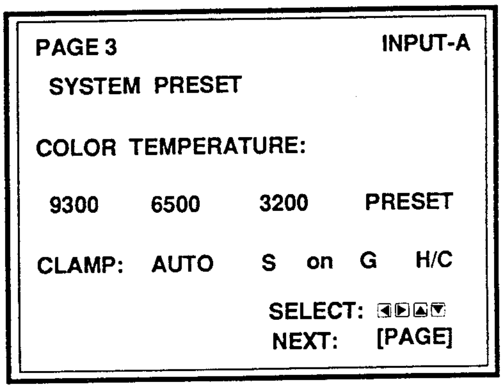
PAGE 2



```
PAGE  2                    INPUT-A
 USER  CONTROL
CONTR :   80
COLOR :   --
BRT :     50
SHARP :   --
HUE :     --
VOL :     50

                 NEXT :    [PAGE]
```

The picture conditions; contrast, color, brightness, sharpness, hue, and volume levels are displayed. "— —" indicates that the control does not function with the current input signal. (In this case, the input signal is PAL or SECAM.)
To change the levels, adjust with VOL and PICTURE CONTROL keys.

PAGE 3

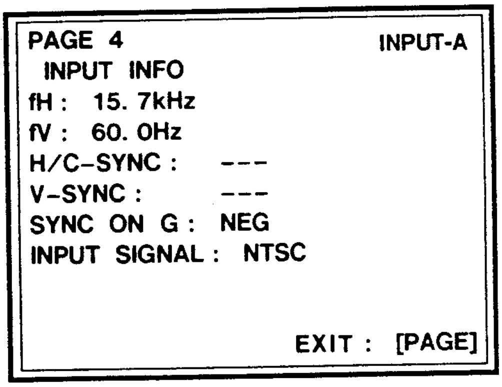


```
PAGE 3                               INPUT-A
 SYSTEM  PRESET

COLOR  TEMPERATURE:

 9300     6500      3200      PRESET

CLAMP:   AUTO      S   on   G    H/C

                  SELECT: ◀▶▲▼
                  NEXT:     [PAGE]
```

The color temperature and clamp settings are displayed.
The selected item blinks in green.
To change the setting, adjust by pressing ◀, ▶, ▲, or ▼ keys.
For details of the clamp setting, see "If the luminance of the picture is incorrect — clamp setting" on page 19.

Note
"CLAMP" is not displayed when the input mode is VIDEO.

PAGE 4



```
PAGE  4                          INPUT-A
 INPUT  INFO
fH :   15. 7kHz
fV :   60. 0Hz
H/C-SYNC :        ---
V-SYNC :          ---
SYNC  ON  G :   NEG
INPUT  SIGNAL :   NTSC


                       EXIT :   [PAGE]
```

The signal input conditions are displayed.

fH: The horizontal frequency of the input signal
fV: The vertical frequency of the input signal
H/C-SYNC: The polarity of the H/C-SYNC
V-SYNC: The polarity of the V-SYNC
SYNC ON G: The polarity of the SYNC on the Green
INPUT SIGNAL: The current input signal

POS: positive
NEG: negative
— —: no input

Each indication means the following input signal:

Y/C:	S video signal
RGB:	RGB signal
NTSC:	Video signal of NTSC system
PAL:	Video signal of PAL system
SECAM:	Video signal of SECAM system
B&W:	Black and white video signal
Internal Oscillation:	Internal oscillation mode when no signal is input

The projector operates with the sync signal indicated in green.

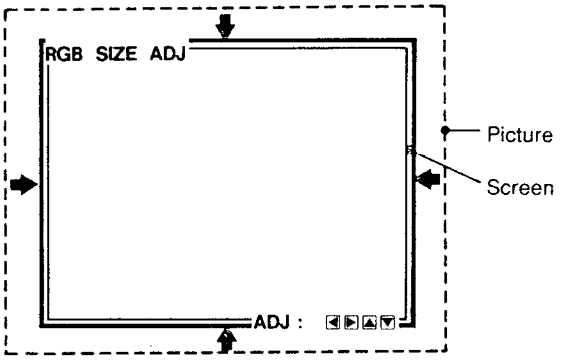
Adjusting the picture input from RGB IN

If necessary, adjust the size and shift of the picture using the RGB SIZE/SHIFT and arrow keys.
This adjustment does not function with input signal from VIDEO IN connectors.

After the RGB SIZE/SHIFT adjustment, press the selected INPUT SELECT key (A or B) to cut the on-screen display.
If you wish to keep the current adjustment setting, save the data (see page 18).

RGB SHIFT adjustment

If size of the picture does not fit the screen, adjust RGB SIZE.



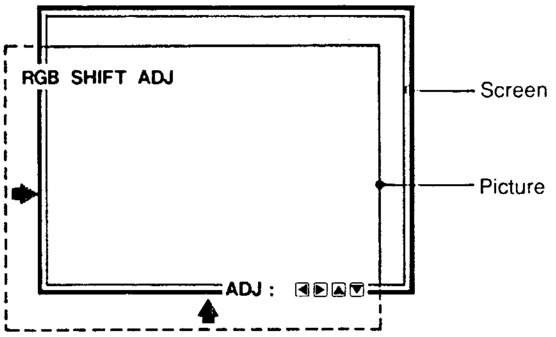
1 **Press RGB SIZE key.**

2 **Adjust by pressing arrow keys so that the picture fits the screen.**

- ◀ to reduce horizontal size
- ▶ to expand horizontal size
- ▲ to expand vertical size
- ▼ to reduce vertical size

RGB SIZE adjustment

If the picture needs to be shifted to fit the screen, adjust RGB SHIFT.



1 **Press RGB SHIFT key.**

2 **Adjust by pressing arrow keys so that the picture fits the screen.**
The picture shifts according to the direction of the arrow.

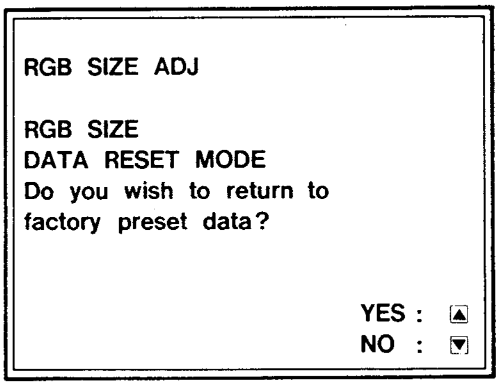
After the RGB SIZE/SHIFT adjustment, press the selected INPUT SELECT key (A or B) to cut the on-screen display.

If you wish to keep the current adjustment setting, store the data (see page 18).

Resetting RGB SIZE/SHIFT to factory preset condition

1 **Press RGB SIZE or SHIFT key.**

2 **Press ◀ and ▶ keys simultaneously.**
The following on-screen display appears on the screen.

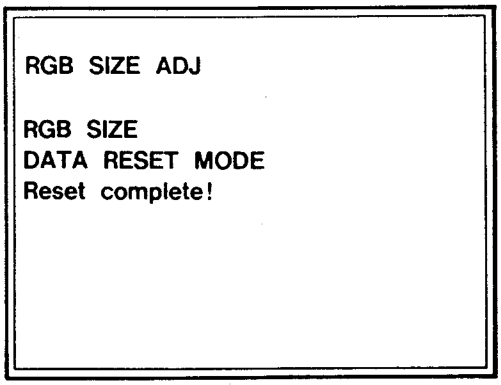


RGB SIZE ADJ

RGB SIZE
DATA RESET MODE
Do you wish to return to
factory preset data?

YES : ▲
NO : ▼

3 **Press ▲ key.**
The following on-screen display appears on the screen to confirm that resetting was completed.
To keep the current setting instead of resetting, press ▼ key.



RGB SIZE ADJ

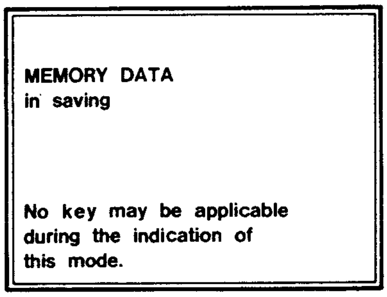
RGB SIZE
DATA RESET MODE
Reset complete!

To Store the Adjustment Levels

If you wish to save the picture adjustment changes, you must store them in memory.
The following conditions can be stored:

SECAM ON/OFF setting
CLEAR BLUE (C.B.) ON/OFF setting
COLOR TEMPERATURE setting on PAGE 3
RGB SIZE/SHIFT adjustment levels

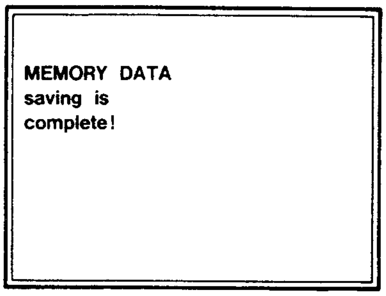
1 **After the adjustment, press MEMORY key.**
The following on-screen display appears to indicate that storing has begun. While the display is on, no other key will function.



MEMORY DATA
in saving

No key may be applicable
during the indication of
this mode.

2 **The following on-screen display appears to confirm that storing has been completed.**



MEMORY DATA
saving is
complete!

Messages on the Screen

The meaning of the color
Four colors are used in the letters of on-screen display.

Color	Meaning
Green	Function and condition
Cyan	Operation guide and messages
Yellow	Caution and error messages
White	Item being adjusted

Error messsage
When you perform an error in operation, the following messages will be displayed.

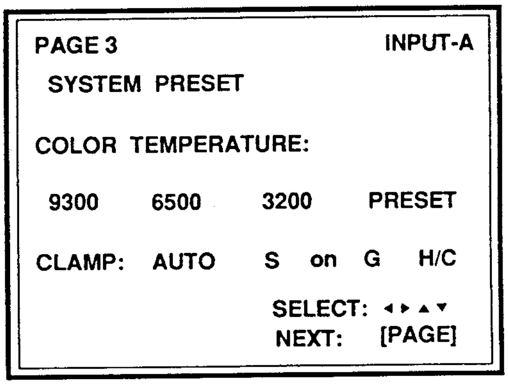
Messages	Meaning
Not applicable!	The control dose not function with the current input.
PIC MUTE	PIC MUTE is set to ON. If you want to adjust the picture controls, press PJ MUTE PIC key to cancel the PIC MUTE mode.
Overflow!	RGB SIZE/SHIFT and CENT R/B adjustment range limit has been reached.
OFF	STATUS is set to OFF to cut the on-screen display. To restore the on-screen display, press STATUS ON key.

If the Luminance of the Picture is Incorrect – Clamp Setting

Clamp is used as a standard for setting the black level of the picture correctly. The standard position of the clamp depends on the kind of the sync signal. Normally the CPU may judges the signal and sets the clamp position automatically.

However, the CPU may misjudge the signal because of noise. If the luminance of the picture seems to be incorrect, (too dark, the black color is too light, or the luminance is unstable) the clamp position may needs to be changed. In such case, change the clamp position following the procedure below.

1 **Press Page key 3 times.**



PAGE 3 INPUT-A
SYSTEM PRESET

COLOR TEMPERATURE:

9300 6500 3200 PRESET

CLAMP: AUTO S on G H/C

SELECT: ◀ ▶ ▲ ▼
NEXT: [PAGE]

2 **Select the clamp postion by pressing ◀, ▶, ▲ and ▼ keys.**

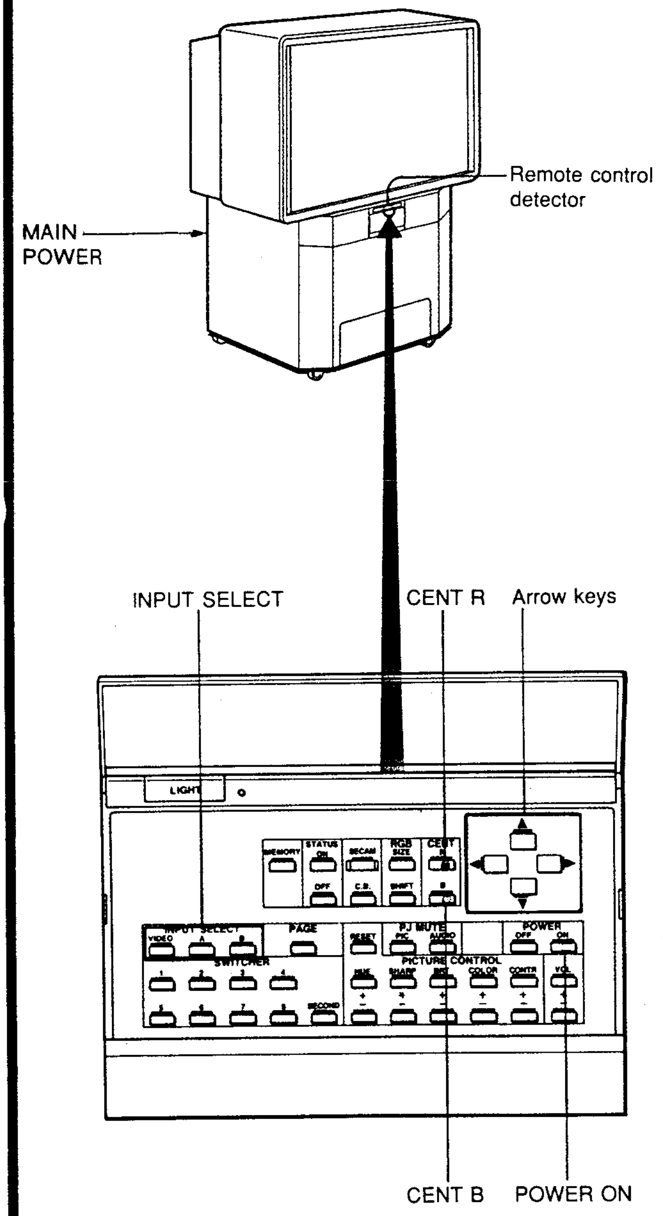
AUTO: Automatic setting mode. Normally, set to this position.
S on G: If the black color is too light or seems to be green, set to this position.
H/C: If the picture is too dark or the luminance is unstable, set to this position.

3 **Press MEMORY key to save the data.**

If the luminance is still incorrect after changing the clamp setting
There may be other problem with the input signal or connection. Check the input signal.

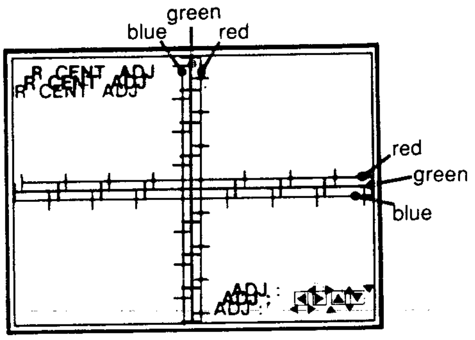
1-3. CENTERING ADJUSTMENT

The three colors red, green and blue must converge for proper projection. If they do not converge, centering adjustment is necesssary.


Remote control detector
MAIN POWER
INPUT SELECT
CENT R
Arrow keys
CENT B
POWER ON

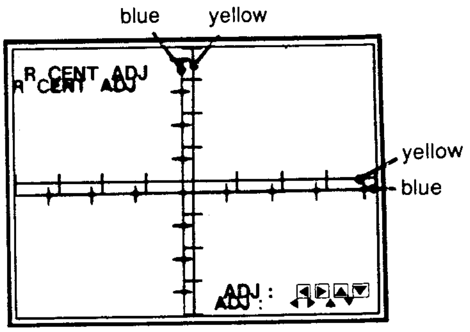
1 **Press MAIN POWER switch of the projector and press POWER ON key of the Remote Commander.**

2 **Press CENT R key.**
The built-in cross hair test pattern will be displayed and the red line will be operable.


green
blue
red
R CENT ADJ
red
green
blue
ADJ :

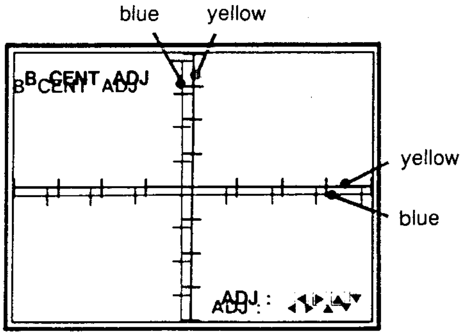
(Three colors do not converge.)

3 **Press arrow keys to move the red line until the red and green lines converge and are seen as yellow.**
The red line will move according to the direction of the arrow.

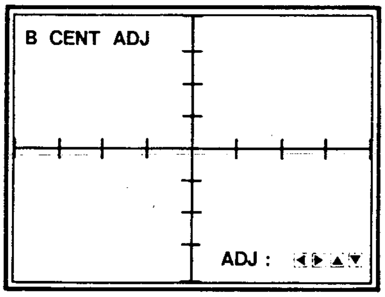

blue
yellow
R CENT ADJ
yellow
blue
ADJ :

(Green and red converged.)

4 **Press CENT B key.**
The blue line will be operable.


blue
yellow
B CENT ADJ
yellow
blue
ADJ : ◀▶▲▼

5 **Press arrow keys to move the blue line until the blue and yellow lines converge.**
When all three color lines converge, the pattern will be seen as white.


B CENT ADJ
ADJ : ◀▶▲▼

(Three colors converged.)

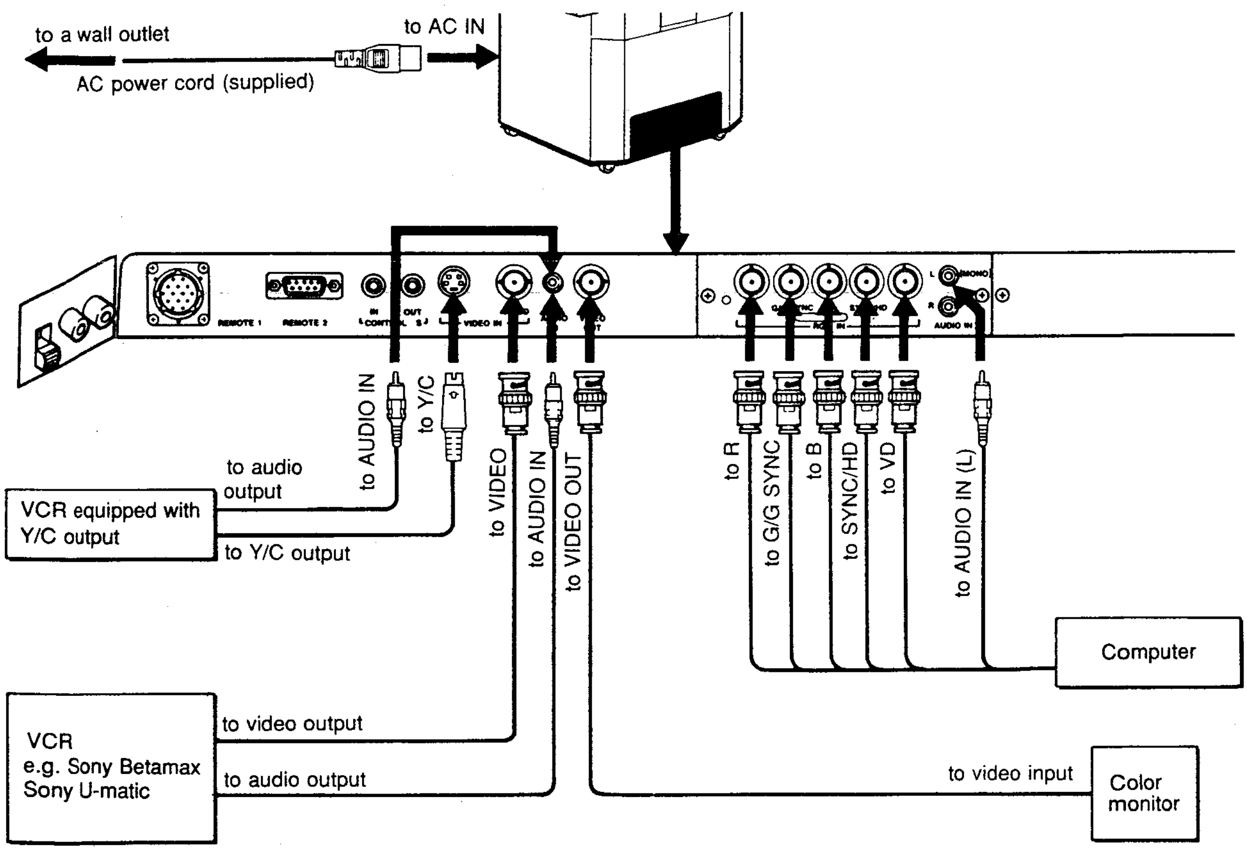
6 **Press the selected INPUT SELECT key (VIDEO, A or B) to exit the test pattern mode.**

1-4. SYSTEM CONNECTIONS

Notes on connection

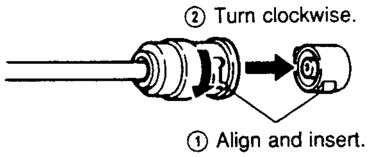
- First make sure that the power to each piece of equipment is turned off.
- Use connecting cables suitable for the equipment to be connected.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- To disconnect the cable, pull it out by grasping the plug. Never pull the cable itself.
- For connection to the REMOTE 1 connector, the connecting cable may be extended to maximum 50 m for VIDEO input and 25 m for RGB input. If the connecting cable is longer than that, picture quality may be impaired somewhat. To extend the connecting cable for RGB input longer than 25 m, please consult the qualified Sony personnel.
- Read the instruction manual of the equipment to be connected.

Connecting to the Projector Directly


to a wall outlet
to AC IN
AC power cord (supplied)
to AUDIO IN
to Y/C
to audio output
VCR equipped with Y/C output
to Y/C output
to VIDEO
to AUDIO IN
to VIDEO OUT
to R
to G/G SYNC
to B
to SYNC/HD
to VD
to AUDIO IN (L)
Computer
VCR
e.g. Sony Betamax
Sony U-matic
to video output
to audio output
to video input
Color monitor

Notes

- The VIDEO connector is disconnected automatically when a cable is connected to the Y/C connector.
- The external sync signal has priority over the internal sync signal. However, when the external sync signal is incomplete, the internal sync signal has priority.


② Turn clockwise.
① Align and insert.

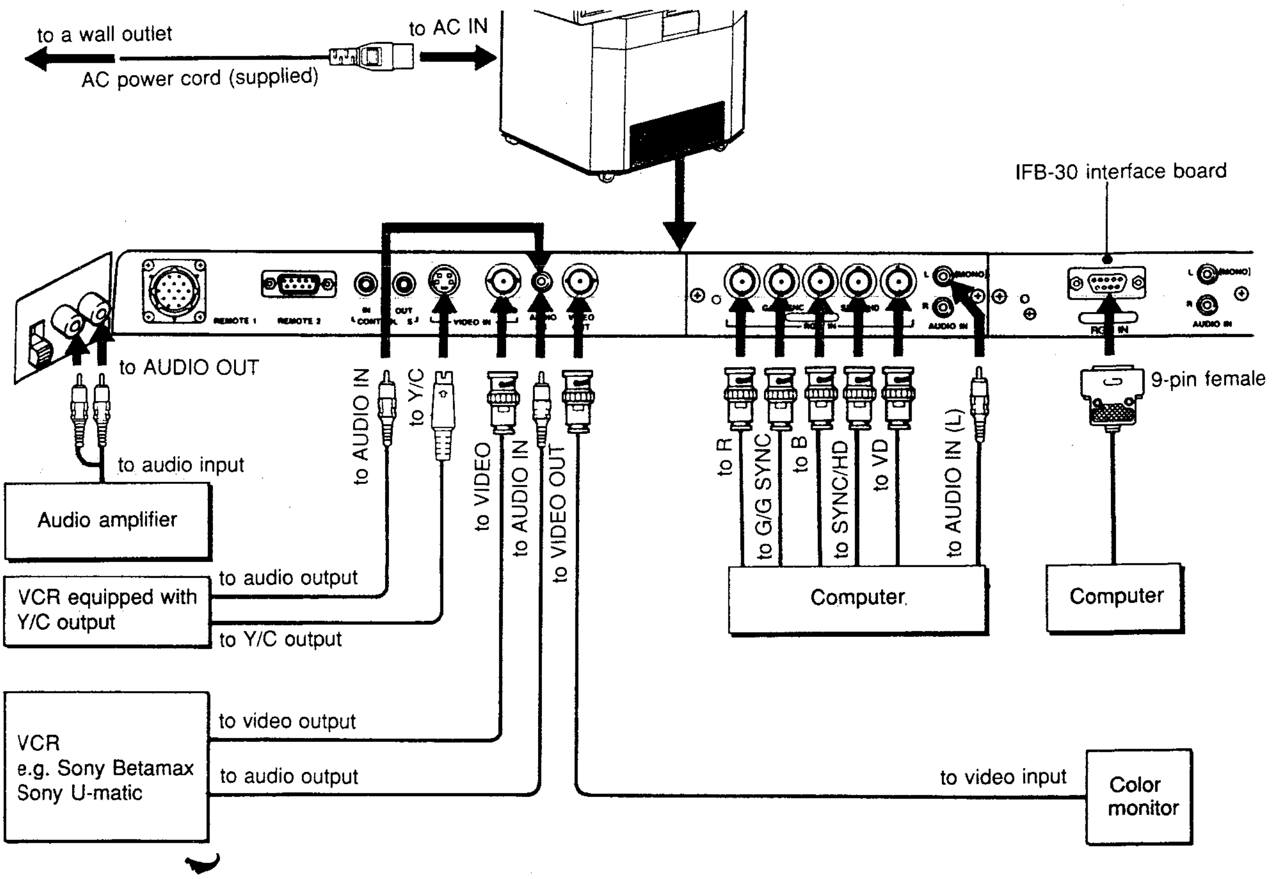
Notes

- Do not leave a still picture from a computer or video disc player projected for more than one hour.
- Depending on the computer, the dimensions of the character display area may change or the picture may be uncentered. This is not a fault of the projector.
- If your computer is equipped with a composite video output, connect it to the VIDEO IN VIDEO connector of the projector.
- If necessary, adjust the size and shift of the picture using RGB SIZE/SHIFT and arrow keys (see page 16).

Using the Interface Board

Use the optional interface board IFB-10, 20, 30, or 1000 to expand the system connections.

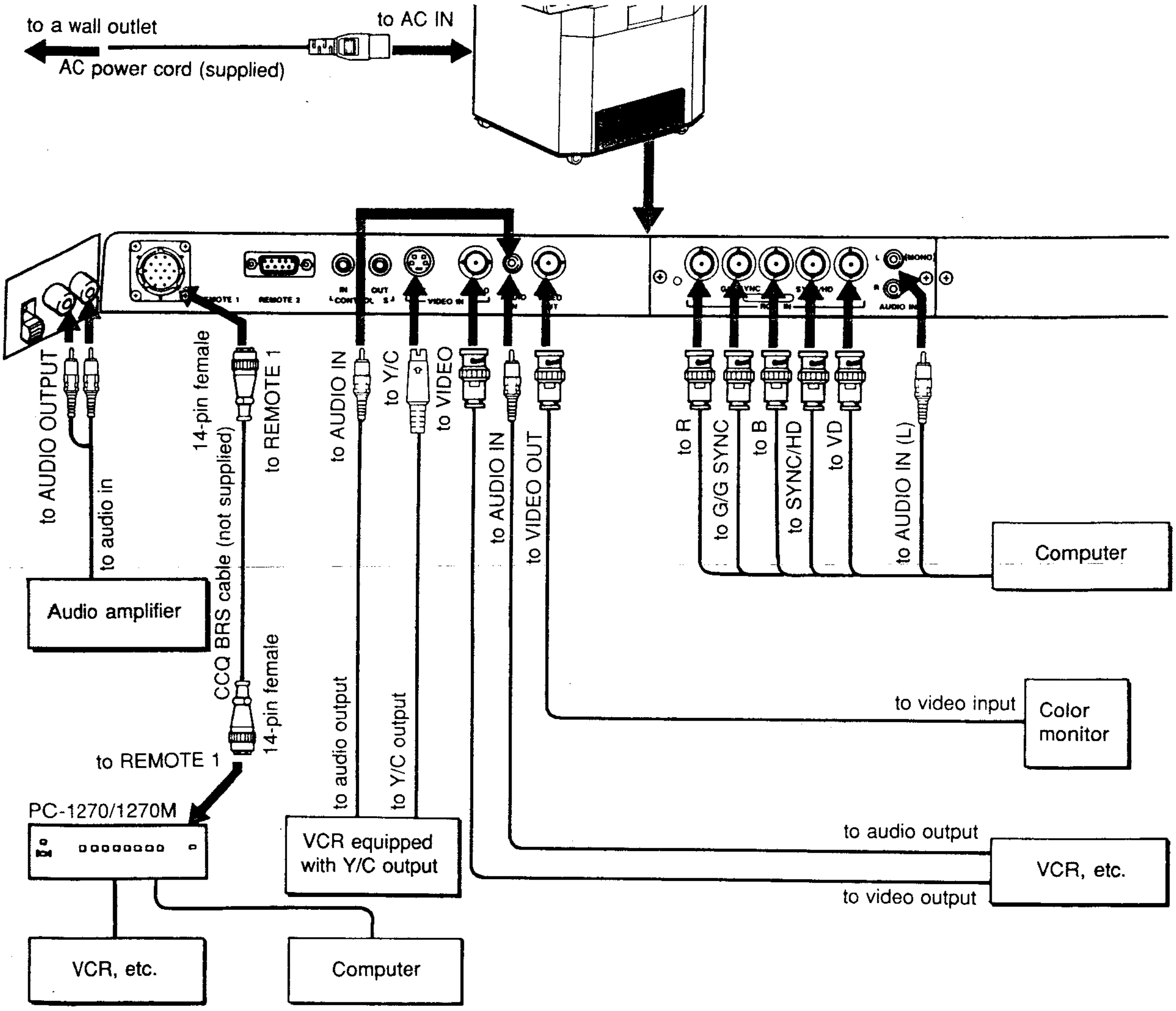
Example: Using the IFB-30 interface board


to a wall outlet
to AC IN
AC power cord (supplied)
IFB-30 interface board
to AUDIO OUT
to audio input
Audio amplifier
to AUDIO IN
to Y/C
to VIDEO
to AUDIO IN
to VIDEO OUT
VCR equipped with Y/C output
to audio output
to Y/C output
VCR
e.g. Sony Betamax
Sony U-matic
to video output
to audio output
to R
to G/G SYNC
to B
to SYNC/HD
to VD
to AUDIO IN (L)
Computer
9-pin female
Computer
to video input
Color monitor

For installing the interface board, consult the qualified Sony personnel.

Using the Switcher

Use the optional switcher PC-1270/1270M for connecting various video equipment. The input is selected by pressing the SWITCHER keys on the Remote Commander.


to a wall outlet
to AC IN
AC power cord (supplied)
REMOTE 1
REMOTE 2
VIDEO IN
AUDIO IN
MONO
to AUDIO OUTPUT
to audio in
Audio amplifier
14-pin female
CCQ BRS cable (not supplied)
to REMOTE 1
14-pin female
to REMOTE 1
PC-1270/1270M
VCR, etc.
Computer
to AUDIO IN
to Y/C
to VIDEO
to audio output
to Y/C output
VCR equipped with Y/C output
to AUDIO IN
to VIDEO OUT
to R
to G/G SYNC
to B
to SYNC/HD
to VD
to AUDIO IN (L)
Computer
to video input
Color monitor
to audio output
to video output
VCR, etc.

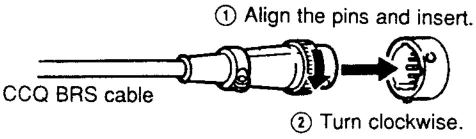
The equipment can be connected to VIDEO IN and RGB IN connectors even when the switcher is connected.

Using the SWITCHER keys on the Remote Commander

Press the number key from 1 to 8 to select the input number of the switcher. SECOND key is used when there are two switchers.

To control the second switcher (SINGLE/SECOND/REMOTE switch is set to SECOND), first press SECOND key and then the number key.

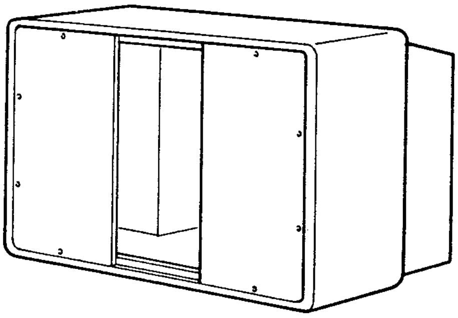
14-pin connector


① Align the pins and insert.
CCQ BRS cable
② Turn clockwise.

1-5. PARTS LIST

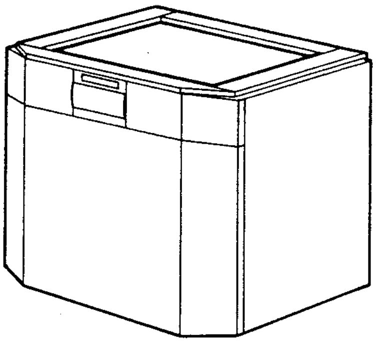
Make sure that all parts are supplied.

Upper cabinet (1)

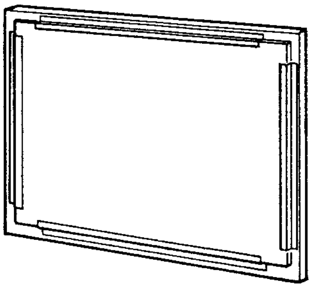


Lower cabinet (1)

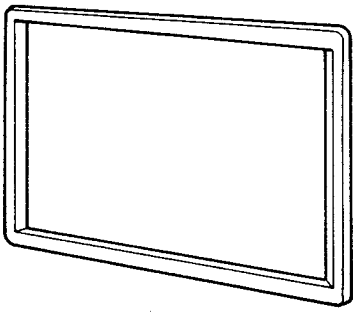
The projector is mounted.



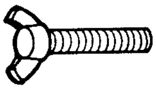
Screen (1)



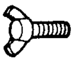
Screen frame (1)



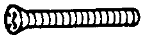
ⓐ **Wing screw** M6 × 40 (6)



ⓑ **Wing screw** M6 × 15 (2)



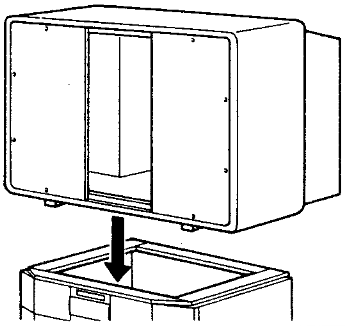
ⓒ **Screw** M4 × 40 (2)



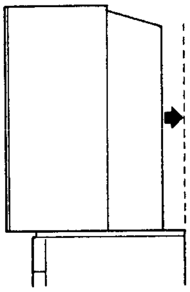
1-6. INSTALLATION

1 Place the upper cabinet on the lower cabinet.

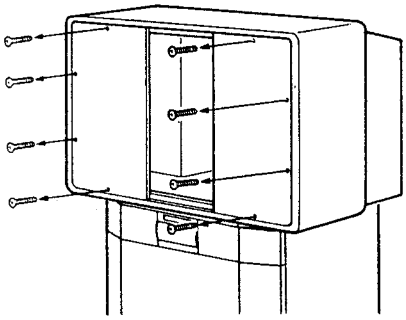
1 Place the projection at the bottom of the upper cabinet inside the frame of the lower cabinet.



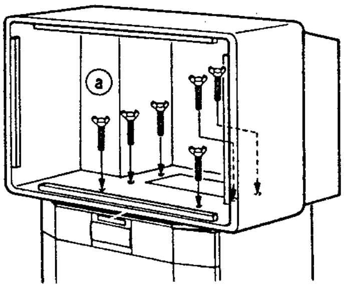
2 Press the upper cabinet backward until it stops so that the back of upper and lower cabinets align.



3 Remove the cabinet board.

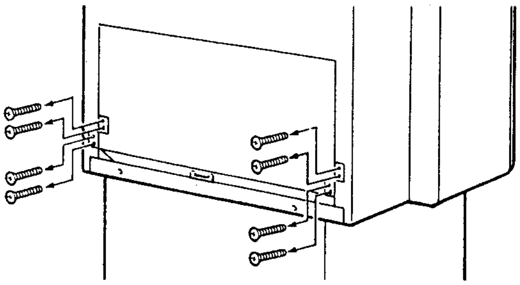


4 Secure with wing screws.



2 Pull out the mirror cover.

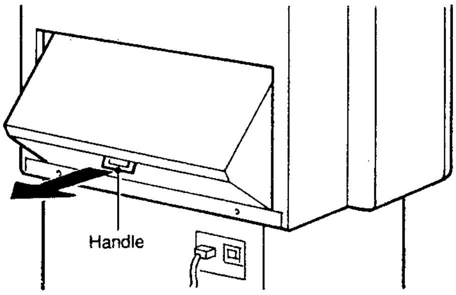
1 Remove the screws and metal plates.



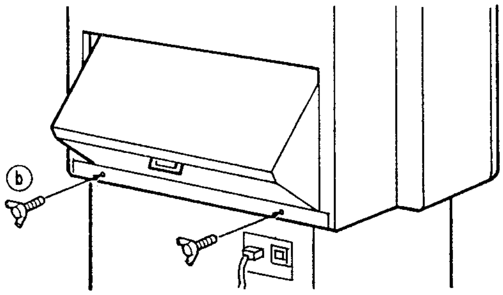
Note

Store the screws and metal plates. Use them to align the mirror cover for transportation.

2 Hold the handle and pull the mirror cover fully out.

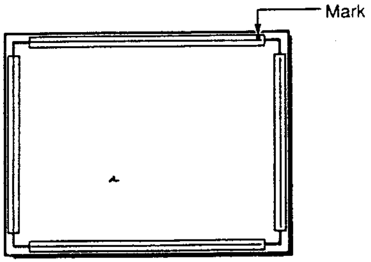


3 Secure the mirror cover.

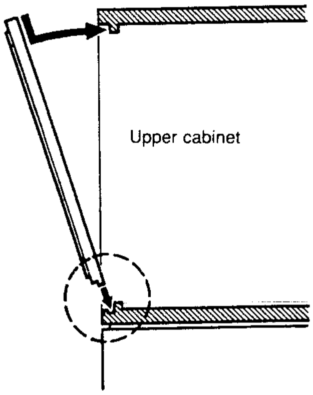


3 Mount the screen.

The mark indicates the top side of the screen.



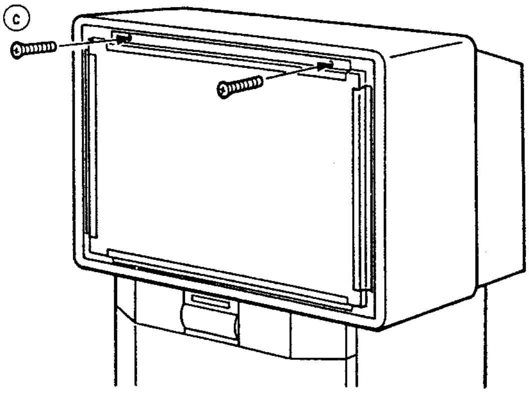
1 **Insert the bottom of the screen in the groove, and then depress the screen in the upper cabinet.**



Notes

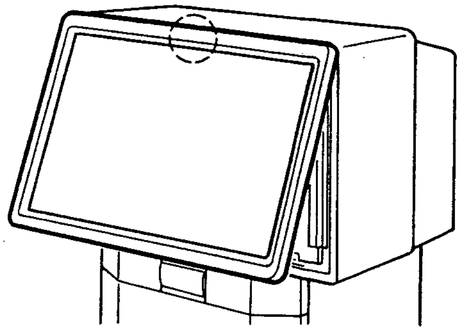
- Hold the screen by the edges.
- Do not touch the screen.

2 **Secure with the screws.**

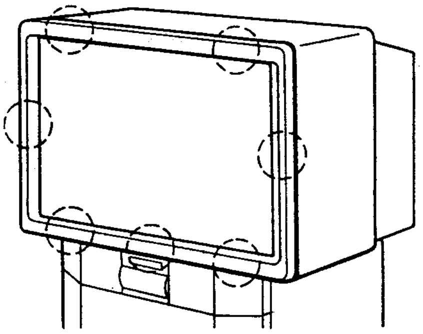


4 Mount the screen frame.

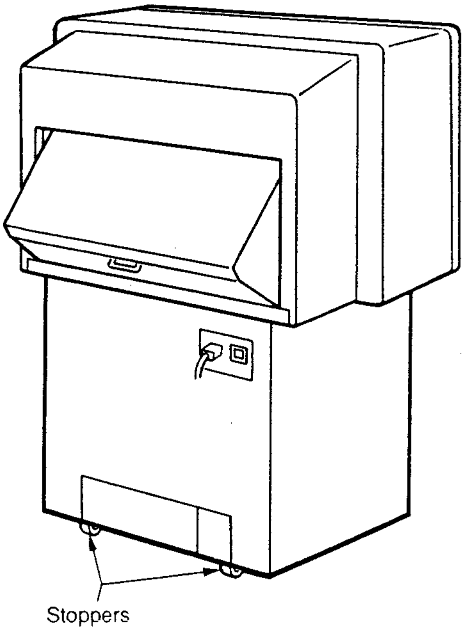
1 **Insert the projections of the screen frame into the holes of the upper cabinet.
First, start with the center-top.**



2 **Insert the other seven projections.**

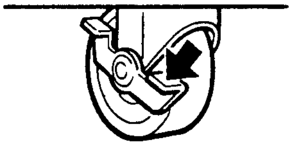


5 Secure with the two stoppers.



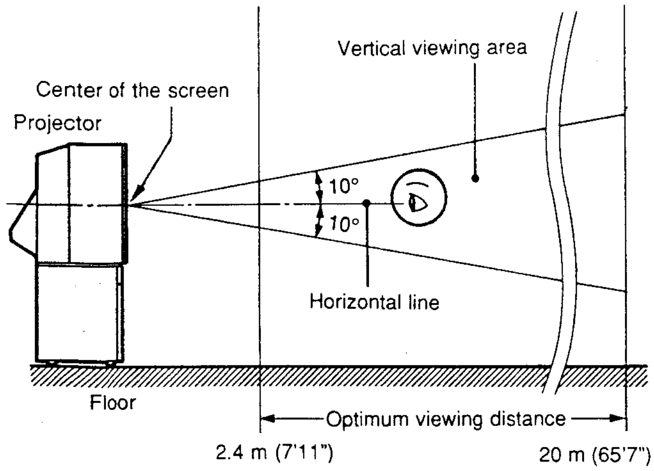
1. Move the cabinet so that the stoppers come to the rear.

2. Lower the stoppers.



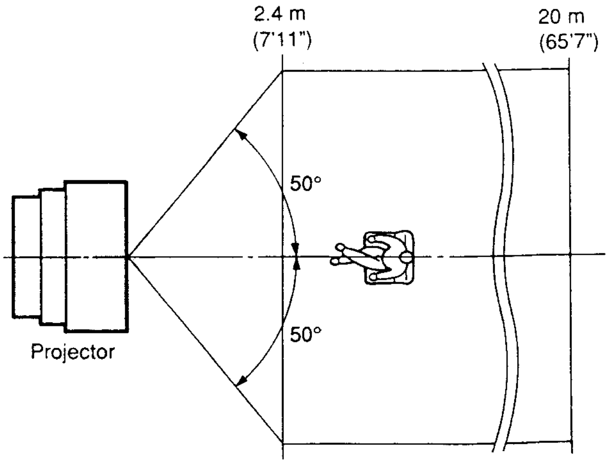
Viewing Area

Vertical viewing area


Vertical viewing area
Center of the screen
Projector
10°
10°
Horizontal line
Floor
Optimum viewing distance
2.4 m (7'11")
20 m (65'7")

Margin of error ±1%

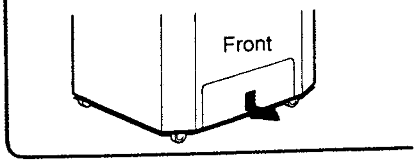
Horizontal viewing area

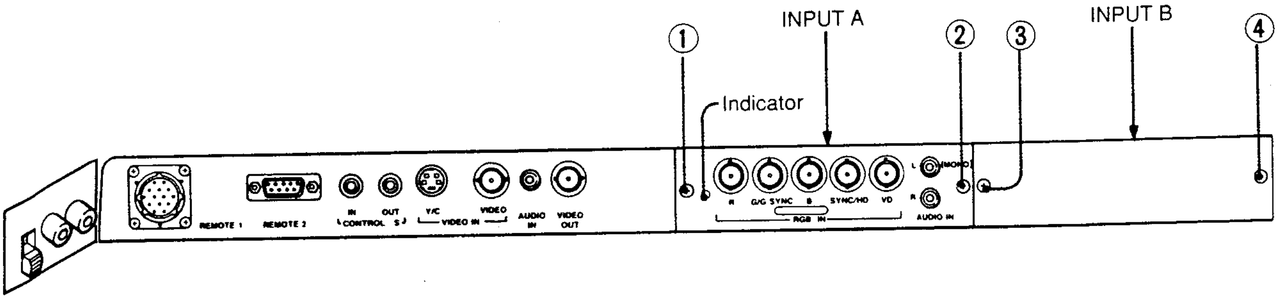

2.4 m
(7'11")
20 m
(65'7")
50°
50°
Projector

1-7. FOR SYSTEM-UP

An optional interface board can be inserted in INPUT B or the input unit of INPUT A can be shifted to INPUT B if desired.

How to remove the connector cover




①
INPUT A
②
③
INPUT B
④
Indicator
REMOTE 1
REMOTE 2
IN
OUT
CONTROL S
Y/C
VIDEO
VIDEO IN
AUDIO IN
VIDEO OUT
R
G/G SYNC
B
SYNC/HD
VD
RGB IN
L
(MONO)
R
AUDIO IN

How to remove the interface board of INPUT A

Loosen screws ① and ② and pull out the interface board. Screws ① and ② cannot be removed from the board completely.

How to remove the cover of INPUT B

Remove screws ③ and ④ and pull out the cover.

Optional interface board

- IFB-10
- IFB-20
- IFB-30
- IFB-1000

How to select the input signal

To select the signal connected to INPUT A:
Press SELECT A key on the Commander.

To select the signal connected to INPUT B:
Press SELECT B key on the Commander.

The indicator of the selected connectors panel lights up.

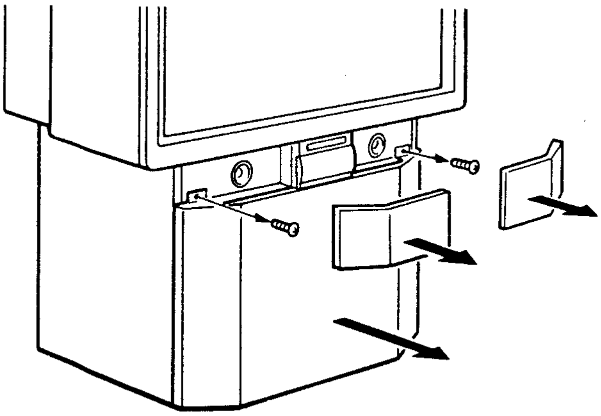
Using the PC-1270/1270M switcher for connecting RGB input signal

When using the PC-1270/1270M switcher at a distance between 25 m and 50 m from the projector for connecting RGB input signal, the picture may be distorted.

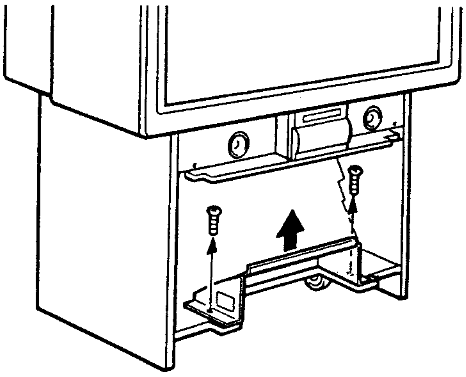
In this case, **first turn the MAIN POWER off** and then perform the following:

Setting the internal switch

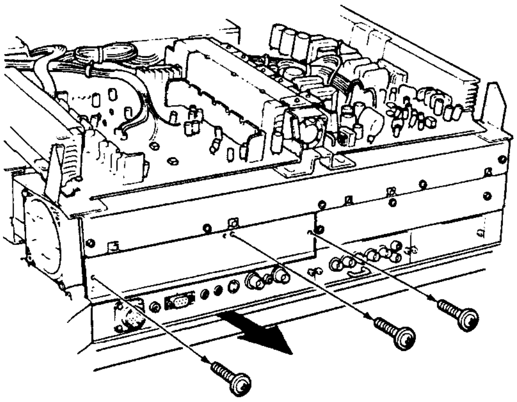
1 **Remove the speaker cover, then loosen the two screws of the front cover and remove it.**



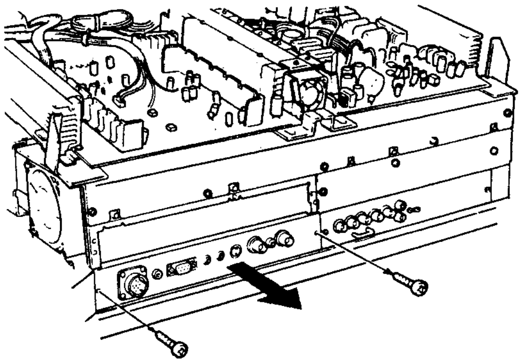
2 **Loosen the two screws of the connector panel frame and remove it.**

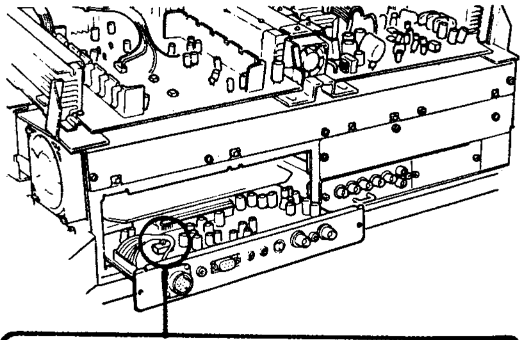


3 **Loosen the three screws on the upper part of the VIDEO connector panel and remove the cover.**

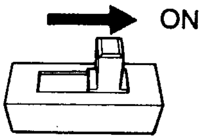


4 **Loosen the two screws on the left and right side of the VIDEO connector panel and pull the panel out.**





5 **Set the SW1 on the 5BNCSW to ON.**
The switch is on the BB board of the connector panel.



6 **Follow the steps in reverse order (4 to 1) to replace the parts.**

1-8. REMOTE CONTROL OPERATION

You can perform all the adjustments with the supplied Remote Commander RM-1270.
RM-1270 can be used both as a wireless Commander and as a wired Commander.

When adjusting we recommend you to use it as a wired Commander so you can concentrate on the screen.

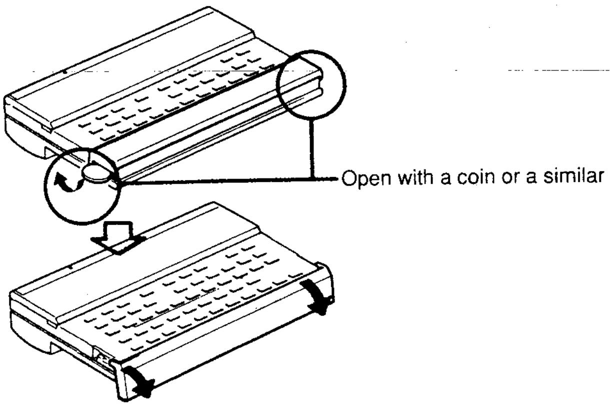
Preparation

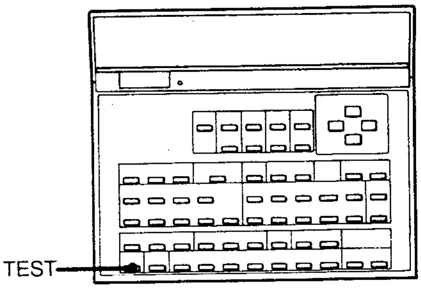
1 **Insert three size R6 (AA) batteries with the polarity lined up correctly.**

2 **Connect the Commander with the set.**

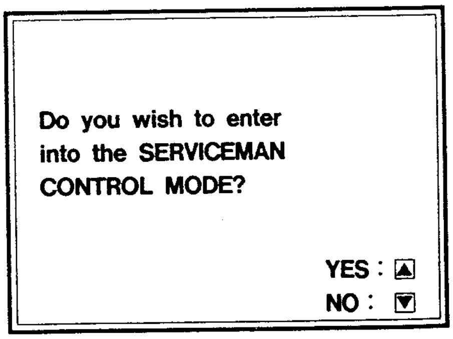
3 **Press MAIN POWER switch at the rear and press POWER ON key on the Commander.**

4 **Remove the panel cover of the service engineer controls.**





5 **Keep pressing TEST key for 5 seconds.**
The display will appear.

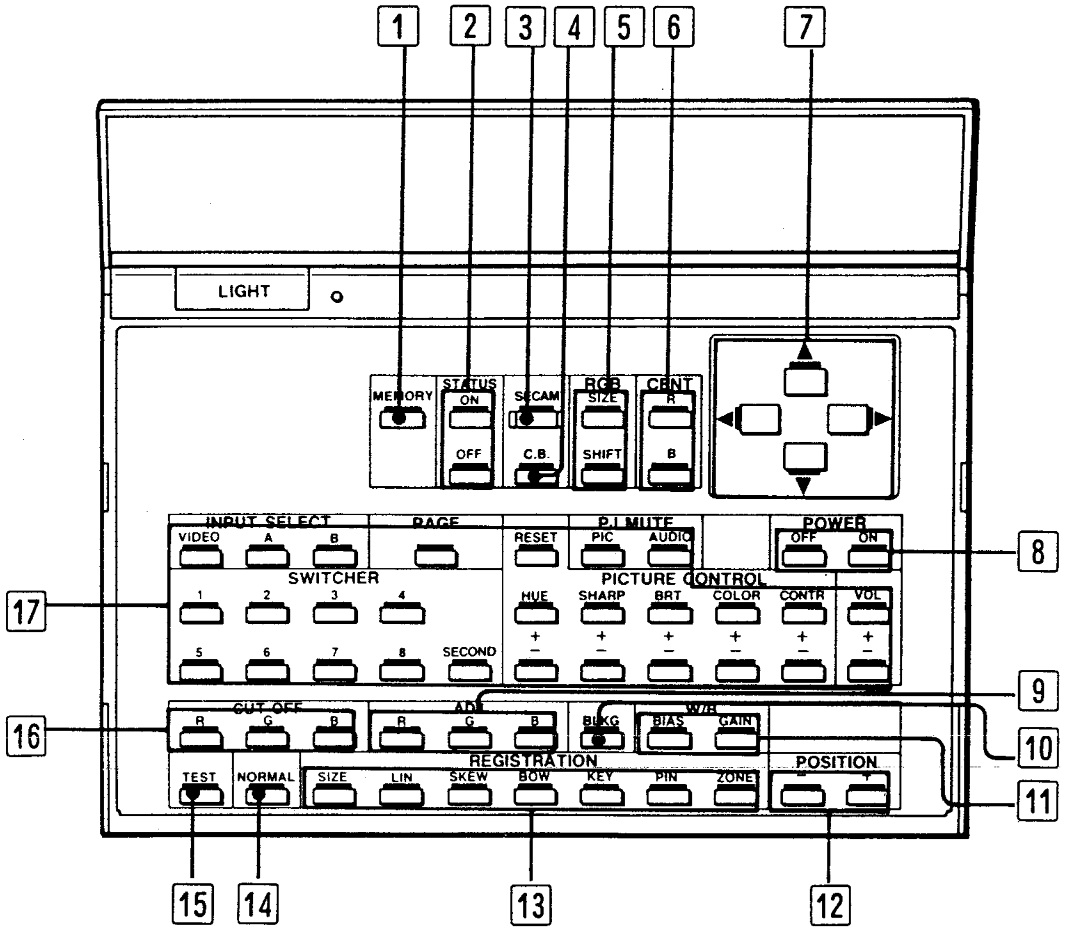


Do you wish to enter into the SERVICEMAN CONTROL MODE?

YES : ▲
NO : ▼

6 **Press ▲ key.**
The keys of the service engineer controls will function.

Keys on the Commander


1
2
3
4
5
6
7
LIGHT
MEMORY
STATUS
ON
OFF
SECAM
C.B.
RGB
SIZE
SHIFT
CENT
R
B
INPUT SELECT
VIDEO
A
B
PAGE
RESET
P.I MUTE
PIC
AUDIO
POWER
OFF
ON
8
17
SWITCHER
1
2
3
4
5
6
7
8
SECOND
PICTURE CONTROL
HUE
SHARP
BRT
COLOR
CONTR
VOL
+
−
9
16
CUT OFF
R
G
B
ADJ
R
G
B
BLKG
W/B
BIAS
GAIN
10
REGISTRATION
TEST
NORMAL
SIZE
LIN
SKEW
BOW
KEY
PIN
ZONE
POSITION
−
+
11
15
14
13
12

1 MEMORY key
Press to lock various adjustment data into memory.

2 STATUS ON/OFF key
Press **OFF** to eliminate the "On-Screen display".
Note: The PAGE display appears even when the **OFF** is pressed.

3 SECAM key
When SECAM signal is input to the projector directly or through the switcher box and you cannot get normal color, press this key. Press again to switch over to the other standard system sources, NTSC or PAL.

4 C.B. (Clear blue) key
Press to make the blue color clear in RGB mode. Press again to restore the normal condition.

5 RGB SIZE/SHIFT key
Press to adjust the size and shift of the picture for the RGB signal.

SIZE: Press to enter the size adjustment mode. The size adjustment of the picture is performed using the four arrow keys.
▲ ....The key to expand the vertical size
▼ ....The key to reduce the vertical size
▶ ....The key to expand the horizontal size
◀ ....The key to reduce the horizontal size

SHIFT: Press to enter the shift adjustment mode. The shift adjustment of the picture is performed using the four arrow keys.
The picture shifts according to the direction of the arrow.

6 CENT R/B keys
Press to enter the centering adjustment mode of the red and blue.

CENT R: Press to enter the red centering adjustment mode.

CENT B: Press to enter the blue centering adjustment mode.

Centering adjustments are performed using the four arrow keys.

7 **Arrow keys**
The keys are used for various adjustment functions.

8 **POWER ON/OFF switch**
Press to turn on and off the projector.

9 **ADJ R/G/B (Adjust red/green/blue) keys**
Press to select color to be adjusted when adjusting the registration.

R .... Red signal
G .... Green signal (Servicing only. If you change the green signal setting, perform the "factory reset" on page 34.)
B .... Blue signal

10 **BLKG (blanking) key**
Press to enter the blanking adjustment mode. The blanking period can be adjusted using the four arrow keys.
For details, see "Other Adjustment".

11 **W/B (white balance) key**
Press to enter the white balance adjustment mode.
BIAS – For cut off adjustment
GAIN – For drive adjustment

12 **POSITION +/– keys**
Used for zone adjustment and the blanking adjustment.

13 **Registration keys**
SIZE/LIN/SKEW/BOW/KEY/PIN/ZONE
Press to select the desired item for registration adjustment. The registration adjustment is performed using the four arrow keys, ADJ keys and POSITION +/– keys. For details, see "Registration Adjustment."

14 **NORMAL key**
Press to cancel the test patterns or serviceman control mode.

15 **TEST key**
Press to display the internal test patterns.
Each press of this button displays 8 patterns sequentially. In registration and white balance adjustment mode, appropriate patterns will be displayed for each adjustment.

16 **CUT OFF keys**
Press to select the color to be turned off when adjusting the registration. Press again to turn on the color.

R .... Red signal
G .... Green signal
B .... Blue signal

17 **Keys for user control**

VOL +/– keys
Press to adjust volume.
+: to increase volume
–: to decrease volume

PICTURE CONTROL keys
Press to adjust picture condition: hue, sharpness, brightness, color, and contrast. Press RESET key to restore the standard levels.

SWITCH keys
When the PC-1270/1270M switcher is connected to the projector, press the number key to select the input from the switcher. SECOND key is used when there are two switchers. To control the second switcher (SINGLE/REMOTE 2/SECOND switch is set to SECOND), first press SECOND key and then the number key.

INPUT SELECT keys
Press to select the input signal.
VIDEO: to select the signal input from VIDEO IN (Y/C or VIDEO) connectors
A: to select the signal input from RGB IN connectors
B: to select the signal input from the connectors of "B" section (optional interface board)

Note
For the location of "A" and "B", see page 10.

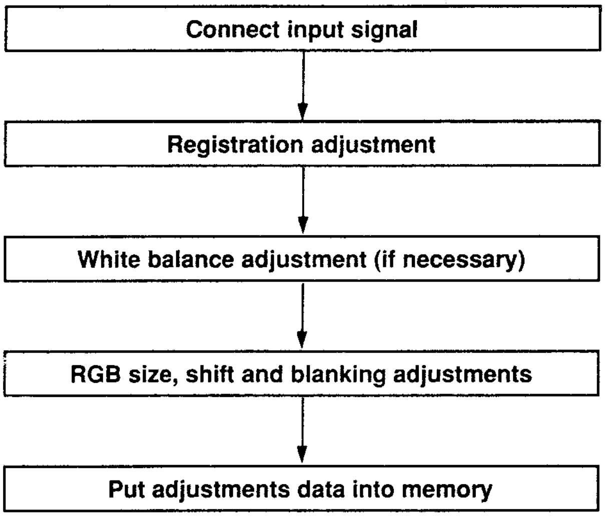
PAGE key
Press to display and switch the following four on-screen displays. (On PAGE 1, 2, and 3, adjustment can also be done).
PAGE 1: Displays STATUS ON/OFF, PIC MUTE ON/OFF, AUDIO MUTE ON/OFF, CLEAR BLUE ON/OFF, and SECAM ON/OFF.
PAGE 2: Displays the picture conditions; contrast, color, brightness, sharpness, hue, and volume levels.
PAGE 3: Displays the color temperature level and clamp setting.
PAGE 4: Displays the input signal conditions; fH, fV, H/C-sync, V-sync, Sync on Green, and input signal.

PJ MUTE keys
PIC: Press to cut off the picture. To restore the picture, press PIC again or CONTR +.
AUDIO: Press to cut off the sound. To restore the previous sound level, press AUDIO again or VOL +.

FOCUS MG/LENS keys are not operable with this set.

1-9. ADJUSTMENT PROCEDURE

Perform each adjustment for each input signal with the Remote Commander.
Follow the steps.


Connect input signal
Registration adjustment
White balance adjustment (if necessary)
RGB size, shift and blanking adjustments
Put adjustments data into memory

Messages on the Screen

Color of message

Four colors are used in the screen display.

Color	Meaning
Green	Function and condition
Cyan	Operation guide and messages
Yellow	Caution and error messages
White	Item being adjusted

Error message

When an error occurs, the following messages will be displayed.

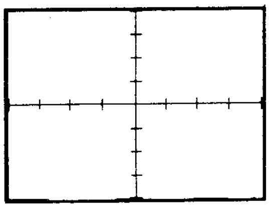
Message	Meaning
Not applicable!	The control does not function with the current input.
PIC MUTE	PIC MUTE is set to ON. If you want to adjust the picture controls, press PJ MUTE key to cancel the PIC MUTE mode.
Overflow!	Adjustable range had reached its limit.
OFF	STATUS is set to OFF to clear the on-screen display.

1-10. TEST PATTERNS

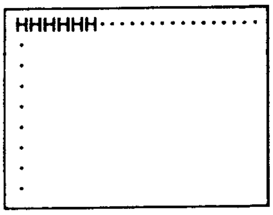
In each adjustment mode, an appropriate test pattern will be displayed. In addition, other test patterns can be displayed by pressing TEST key.

All the Test Patterns

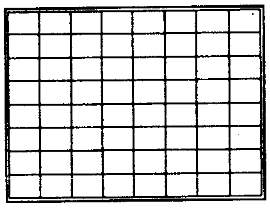
Cross hair



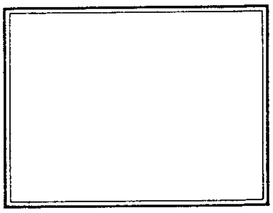
H



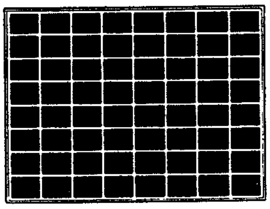
Hatch (9 × 9)



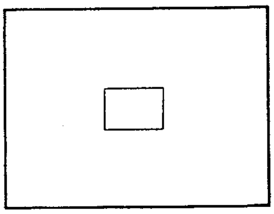
White



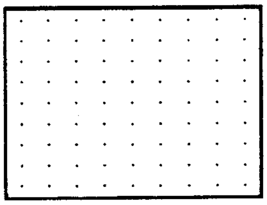
Hatch (reverse)



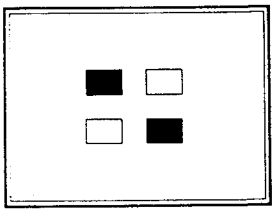
Window



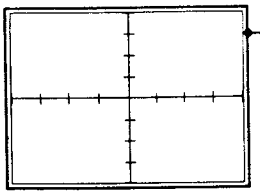
Dot



Pluge



Illustrations of the screen



The outside bold line stands for the edge of the screen.

Test Patterns in Each Mode

Mode		**With one press of TEST key, the test patterns change as follows.**	
Normal		Cross hair → Hatch (9 x 9) → Hatch reverse → Dot → H → White → Window → Pluge → Cross hair	
Registration			
	SIZE LIN SKEW BOW	Cross hair ↔ Hatch (9 x 9)	Select the desired one.
	KEY PIN	Hatch (5 x 5) ↔ Hatch (9 x 9)	Select the desired one.
	ZONE	Hatch (9 x 9) + Cursor	
White balance			
	BIAS	Pluge	
	GAIN	Window ↔ White	
BLKG		Hatch (9 x 9)	
CENT RGB		Cross hair	

1-11. REGISTRATION ADJUSTMENT

Display the test pattern on the screen and adjust the registration.
First perform red adjustment and then blue adjustment.

Procedure

Connect the Remote Commander to the set and turn the power on.

⬇

Disconnect any external signal, and display the cross hair pattern.

⬇

When the center of green signal is far from the screen center, align only the center of green signal to the screen center using ZONE key.

⬇

Red

Press ADJ R key to select red,
Press CUT OFF B key to cut off blue signal, and converge the red line to the green line.

CENT → SIZE ↔ LIN → SKEW ↔ BOW → KEY ↔ PIN → ZONE

↔: Go back and forth between two keys.

⬇

Blue

Press ADJ B key to select blue.
Press CUT OFF G (or R) key to cut off green (or red) signal, and converge the blue line to the red (or green) line.

CENT → SIZE ↔ LIN → SKEW ↔ BOW → KEY ↔ PIN → ZONE

↔: Go back and forth between two keys.

⬇

Save this data as the standard data.

⬇

Connect the external signal to be converged and select it on the Commander.

⬇

Red

Press ADJ R key to select red.
Press CUT OFF B key to cut off blue signal, and converge the red line to the green line.

CENT → SIZE ↔ LIN → SKEW ↔ BOW → KEY ↔ PIN → ZONE

↔: Go back and forth between two keys

⬇

Blue

Press ADJ B key to select blue.
Press CUT OFF G (or R) key to cut off green (or red) signal, and converge the blue line to the red (or green) line.

CENT → SIZE ↔ LIN → SKEW ↔ BOW → KEY ↔ PIN → ZONE

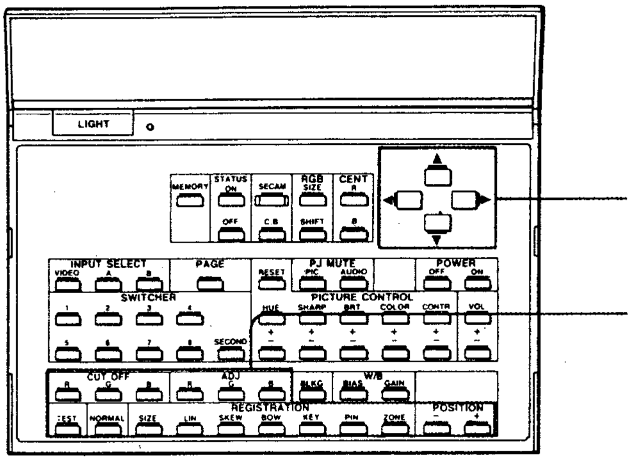
↔: Go back and forth between two keys.

⬇

Complete

Indications on the Commander	Adjustment items
CENT	centering
SIZE	size
LIN	linearity
SKEW	skew
BOW	bow
KEY	keystone
PIN	pincushion
ZONE	zone

Keys for Registration Adjustment


LIGHT
MEMORY
STATUS
ON
OFF
SECAM
C.B
RGB
SIZE
SHIFT
CENT
R
B
INPUT SELECT
VIDEO
A
B
PAGE
RESET
PJ MUTE
PIC
AUDIO
POWER
OFF
ON
SWITCHER
1
2
3
4
5
6
7
8
SECOND
PICTURE CONTROL
HUE
SHARP
BRT
COLOR
CONTR
VOL
+
−
CUT OFF
R
G
B
ADJ
R
G
B
BLKG
W/B
BIAS
GAIN
REGISTRATION
TEST
NORMAL
SIZE
LIN
SKEW
BOW
KEY
PIN
ZONE
POSITION
−
+

Arrow keys

CUT OFF R/G/B keys

ADJ R/G/B (Adjust red/green/blue) keys

TEST key

NORMAL key

REGISTRATION keys
(SIZE/LIN/SKEW/BOW/KEY/PIN/ZONE)

Centering Adjustment

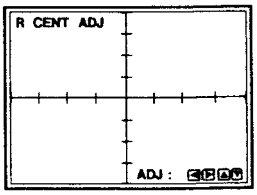
Adjust so that the cross hair comes to the center of the screen.

Operation

1 **Press ZONE key, then ADJ R key to enter the red centering mode.**
To the enter blue centering mode, press ADJ B key.

2 **Press CUT OFF B key to cut off blue signal.**
In the blue centering mode, press CENT G key to cut off green signal.

3 **Adjust red by moving the red lines with ◀, ▶, ▲ and ▼ keys until they converge with the green lines.**
To adjust blue, move blue lines until they converge with the red lines.

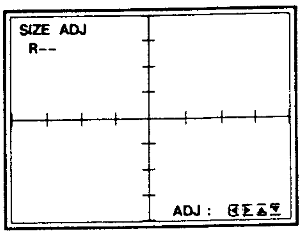

R CENT ADJ
ADJ :

SIZE Adjustment

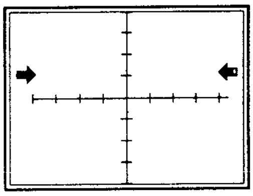
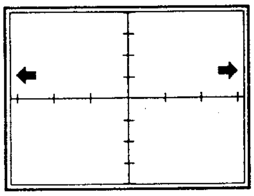
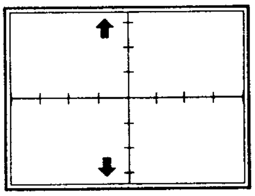
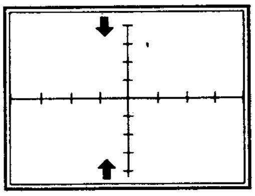
Adjust the size of the displayed picture with respect to the screen.

Pay attention to the upper, low, right and left sides of the screen.

1 **Press SIZE key to enter the size adjustment mode.**
If TEST key is pressed, the screen display will become 9 x 9 hatch pattern.



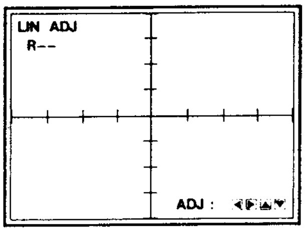
2 **Adjust with ◀, ▶, ▲ and ▼ keys.**

◀	**To reduce horizontal size**	
▶	**To expand horizontal size**	
▲	**To expand vertical size**	
▼	**To reduce vertical size**	

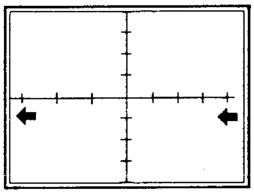
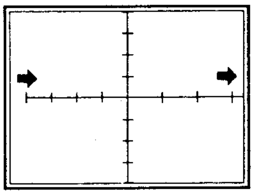
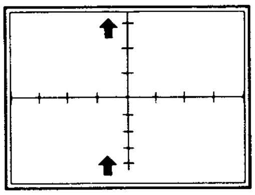
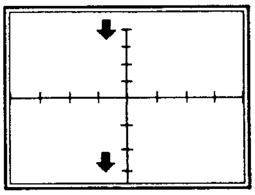
LIN (linearity) Adjustment

After preliminary vertical and horizontal size adjustment is completed, adjust the unbalanced size with this linearity adjustment. You may need to go back to the size adjustment again.

1 **Press LIN key to enter the linearity adjustment mode.**
If TEST key is pressed, the screen display will become 9 × 9 hatch pattern.



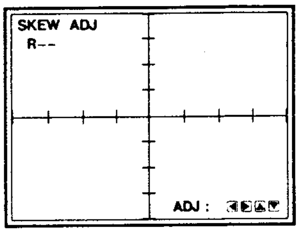
2 **Adjust with ◀, ▶, ▲ and ▼ keys.**

◀	The right and left vertical lines are shifted to the left while the vertical center line of the displayed picture remains unchanged. 
▶	The right and left vertical lines are shifted to the right while the vertical center line of the displayed picture remains unchanged. 
▲	The top and bottom horizontal lines are shifted upward while the horizontal center line of the displayed picture remains unchanged. 
▼	The top and bottom horizontal lines are shifted downward while the horizontal center line of the displayed picture remains unchanged. 

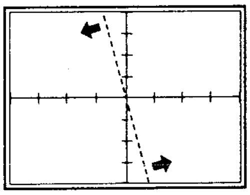
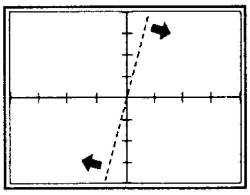
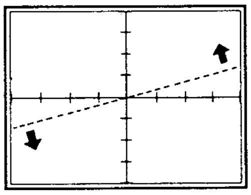
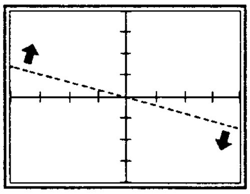
SKEW Adjustment

Adjust the horizontal and vertical center lines.

1 **Press SKEW key to enter the skew adjustment mode.**
If TEST key is pressed, the screen display will become 9 × 9 hatch pattern.



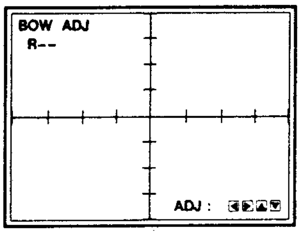
2 **Adjust with ◀, ▶, ▲ and ▼ keys.**

◀	The cross center vertical line leans leftward.	
▶	The cross center vertical line leans rightward.	
▲	The cross center horizontal line leans toward upper right.	
▼	The cross center horizontal line leans toward lower right.	

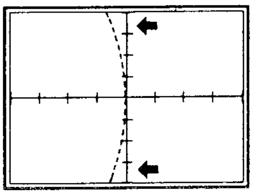
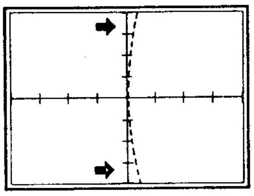
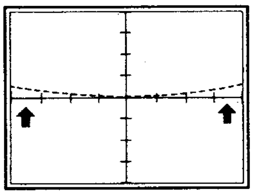
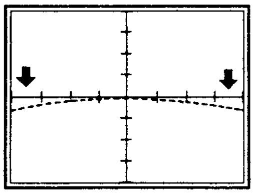
BOW Adjustment

Adjust the bow-like distortion of the center cross.

1 **Press BOW key to enter the bow adjustment mode.**
If TEST key is pressed, the screen display will become 9 × 9 hatch pattern.



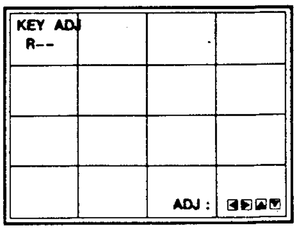
2 **Adjust with ◀, ▶, ▲ and ▼ keys.**

◀	The vertical lines are curved leftward.	
▶	The vertical lines are curved rightward.	
▲	The horizontal lines are curved upward.	
▼	The horizontal lines are curved downward.	

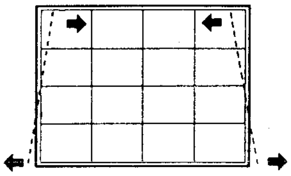
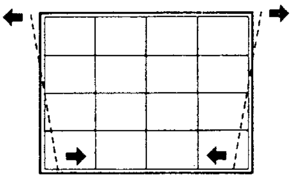
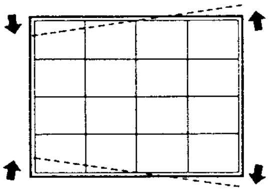
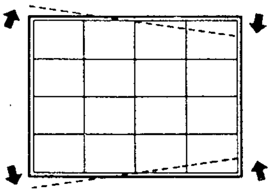
KEY (KEYSTONE) Adjustment

Adjust the trapezoidal distortion in the vertical and horizontal directions.

1 **Press KEY key to enter the keystone adjustment mode.**
If TEST key is pressed, the screen display will become 9 x 9 hatch pattern.



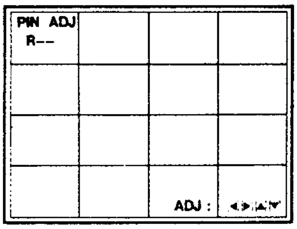
2 **Adjust with ◀, ▶, ▲ and ▼ keys.**

◀	The vertical lines of bottom side expand. 
▶	The vertical lines of top side expand. 
▲	The horizontal lines of right side expand. 
▼	The horizontal lines of left side expand. 

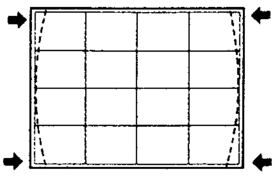
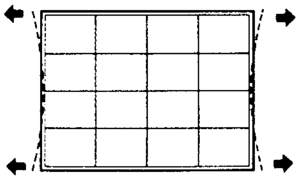
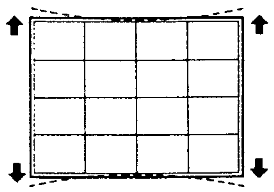
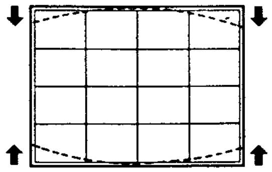
PIN (PINCUSHION) Adjustment

Adjust the pincushion distortion of all the sides.

1 **Press PIN key to enter the PIN adjustment mode.**
If TEST key is pressed, the screen display will become 9 × 9 hatch pattern.

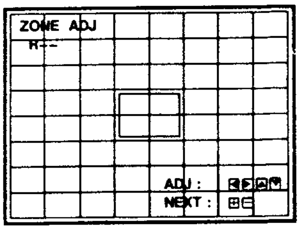


2 **Adjust with ◀, ▶, ▲ and ▼ keys.**

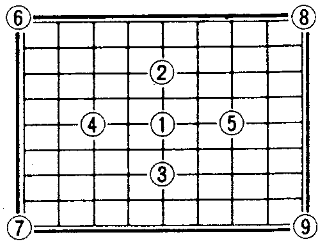
◀	The right and left side lines are curved like a barrel. 
▶	The right and left side lines are curved like a bobbin. 
▲	The top and bottom lines are curved like a bobbin. 
▼	The top and bottom lines are curved like a barrel. 

ZONE Adjustment

1 **Press ZONE key to enter the zone adjustment mode.**
The hatch patterns and the cursor will appear.



2 **Press POSITION key to select the zone to be adjusted.**
+: The cursor moves sequentially.
–: The cursor moves in reverse.



3 **Adjust the distortion in the cursor position with ◀, ▶, ▲ and ▼ keys.**

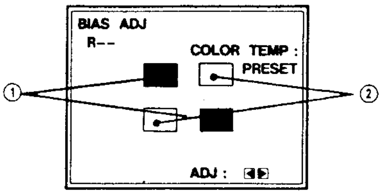
After adjusting red signal, perform blue adjustment.
This adjustment is the last of the registration adjustments.
Proceed to the white balance adjustment.

1-12. WHITE BALANCE ADJUSTMENT

The color temperature is factory preset at 9300K, 6500K, and 3200K, and will be selected automatically according to the input signal.
Normally, adjusting the white balance is unnecessary. However, if you wish to set the color temperature at your own level, you need to adjust the white balance. To perform the white balance adjustment, first, display PAGE 3 by pressing the PAGE key, and select "PRESET" by pressing the arrow keys.
Then follow the steps to perform the adjustment. After the adjustment is done, store the data. The color temperature you have adjusted (PRESET level on PAGE 3) is restored only on the signal it was adjusted.
To adjust white balance, both BIAS adjustment and GAIN adjustment must be performed repeatedly.
Normally adjustment is performed with the test patterns displayed, but if desired, you can show an input signal display by pressing TEST key for about 5 seconds.

1 BIAS Adjustment

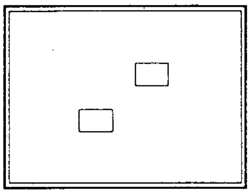
1 **Press W/B BIAS key to enter the BIAS adjustment mode.**
The pluge pattern will appear.



2 **Press ADJ R , G and B key to select the color to be adjusted.**

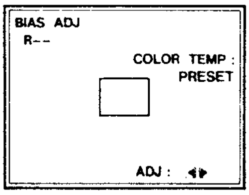
3 **Adjust with ◀ and ▶ keys.**

▶ ...... More brightness
◀ ...... Less brightness
Make part ① as dark as possible, so that finally the black of the background and part ① look the same. The part ② should be slightly lighter than background.



2 GAIN Adjustment

1 **Press W/B GAIN key to enter the GAIN adjustment mode.**
The window pattern will appear.



2 **Press ADJ R or B key to select the color to be adjusted.**
There is no need to adjust the green signal.

3 **Adjust with ◀ and ▶ keys so that the screen is 100% white.**
▶ ...... More brightness
◀ ...... Less brightness

4 **Press MEMORY key.**
The adjustment data will be saved.

1-13. OTHER ADJUSTMENTS

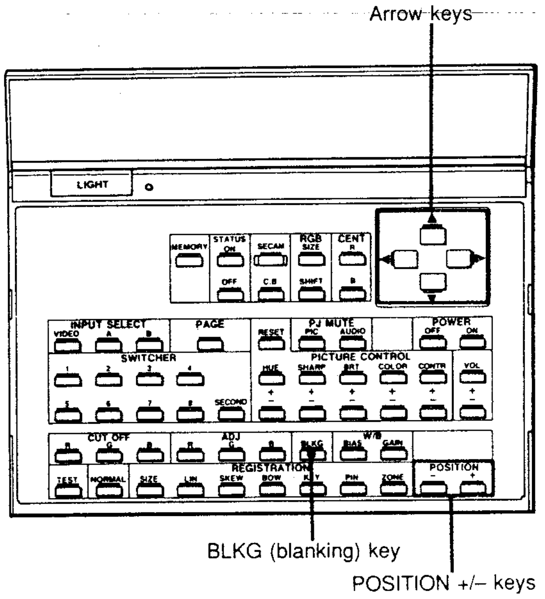
RGB SIZE and SHIFT Adjustments

Display the input signal on the screen and adjust.
For details, see “Operating Instructions” page 16.

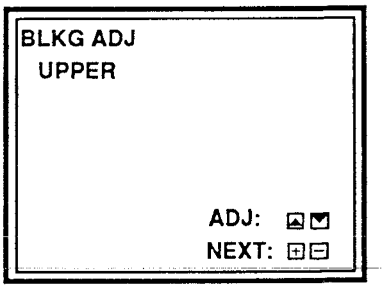
Blanking Adjustment

When the picture is bigger or smaller than the screen, perform this adjustment.

Keys for blanking adjustment


Arrow keys
LIGHT
MEMORY
STATUS
ON
OFF
SECAM
C.B
RGB SIZE
SHIFT
CENT
R
B
INPUT SELECT
VIDEO
A
B
PAGE
RESET
PJ MUTE
PIC
AUDIO
POWER
OFF
ON
SWITCHER
PICTURE CONTROL
HUE
SHARP
BRT
COLOR
CONTR
VOL
SECOND
CUT OFF
ADJ
W/B
BLKG
BIAS
GAIN
REGISTRATION
TEST
NORMAL
SIZE
LIN
SKEW
BOW
KEY
PIN
ZONE
POSITION
BLKG (blanking) key
POSITION +/– keys

1 **Press BLKG key to enter the blanking adjustment mode.**

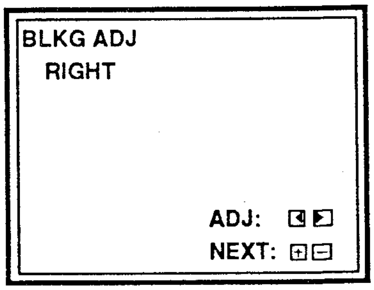


BLKG ADJ
UPPER

ADJ: ▲▼
NEXT: ⊞⊟

2 **Press POSITION +/– key to select the position to be cut off.**
The position to be cut off will change as follows.

+ : UPPER → LOWER → LEFT → RIGHT
– : In reverse order



BLKG ADJ
RIGHT

ADJ: ◀▶
NEXT: ⊞⊟

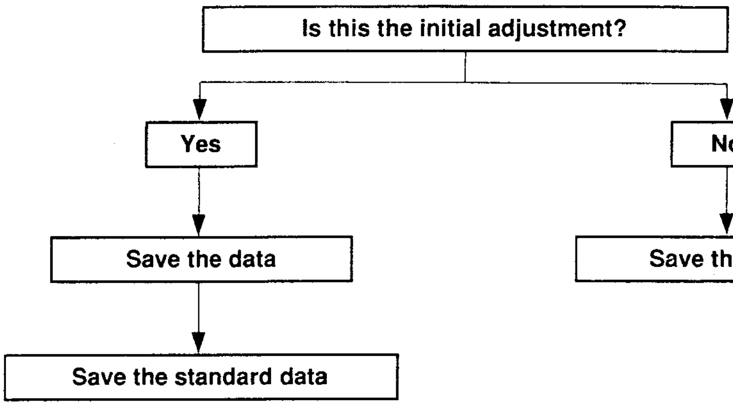
3 To adjust UPPER and LOWER:
Adjust with ▲ or ▼ key.
To adjust LEFT and RIGHT:
Adjust with ◀ or ▶ key.

4 **Press MEMORY key after the adjustment.**

Proceed to “Memory of Adjustment Data”.

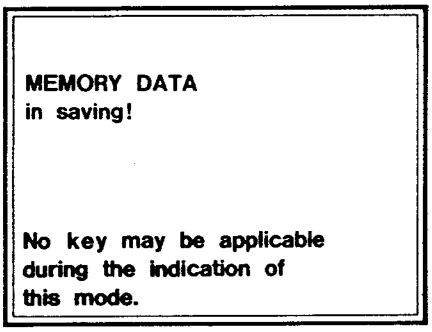
1-14. MEMORY OF ADJUSTMENT DATA

**After adjustment, you need to save the adjustment data.
After the initial adjustment, you must perform two steps to save the data.**



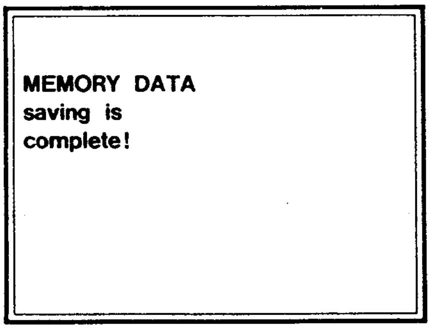
How to Save the Data

After adjustment, press MEMORY key.
(Please do not keep pressing.)
The adjustment data of the input signal will be saved.
During saving other keys cannot be operated.



MEMORY DATA
in saving!

No key may be applicable
during the indication of
this mode.



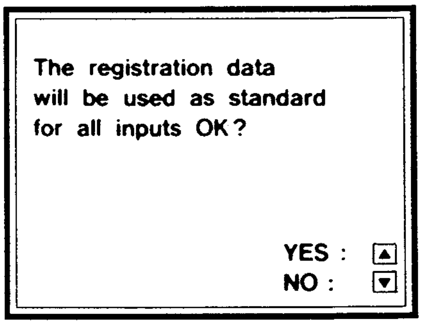
MEMORY DATA
saving is
complete!

Saving the data is completed.

How to Save as the Standard Data

If the registration data is saved according to the horizontal frequency of the specific input signal and then saved as Standard Data, the registration data will be calculated for other horizontal frequencies and is applied when another input signals of different frequency are connected.

1 **After saving the data, keep pressing MEMORY key for more than 3 seconds to enter the standard data saving mode.**



The registration data
will be used as standard
for all inputs OK?

YES : ▲
NO : ▼

2 **Press ▲ key.**
All the registration data will be saved as the Standard Data, clearing all registration data which had been saved previously.

For reference — The memory architecture

Memory Name	Memory Data	How the projector recognizes data	When data is memorized
Channel Memory	Picture control data Volume data	Input connector	When the input connector is switched. When the power is turned off.
Status Memory	RGB SIZE, SHIFT data Blanking data SECAM ON/OFF CLEAR BLUE ON/OFF Color temperature (9300/6500/3200/Preset) Clamp pulse position	Horizontal and vertical frequency Condition of sync signal Input connector	When MEMORY key is pressed. When the power is turned off.
Registration Memory	Registration data	Horizontal frequency of input signal	When MEMORY key is pressed. When the input connector is switched. When the horizontal frequency is changed. When the power is turned off.
Color Temperature Memory	RGB Bias and Gain	Status memory	When MEMORY key is pressed. When the input connector is switched. When the color temperature is changed. When the power is turned off.

Notes

- When the power is turned off on the Commander, all the data is saved and when the power is turned on again, the data will be recovered.
- Turn off the main power on the set after turning off the power on the Commander, otherwise the data will not be saved.

1-15. DATA RESET

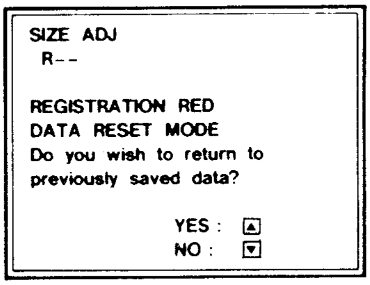
- This set has two possibilities for data reset.

Previous Data Reset

The data will be reset to the previously saved data (The data before the adjustment).

1 **Enter the mode to be reset.**

2 **Press ◀ and ▶ keys simultaneously.**
(The illustration shows the red size adjustment case).

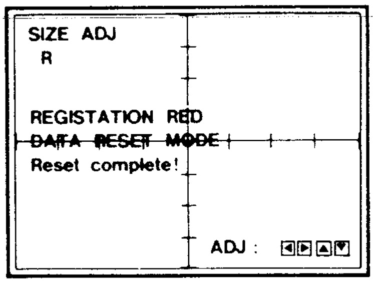


SIZE ADJ
R--

REGISTRATION RED
DATA RESET MODE
Do you wish to return to previously saved data?

YES : ▲
NO : ▼

3 **Press ▲ key.**



SIZE ADJ
R

REGISTRATION RED
DATA RESET MODE
Reset complete!

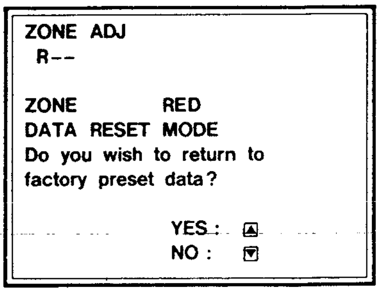
ADJ : ◀▶▲▼

Factory Reset

Perform after "previous data reset".
The data will be reset to the factory set level.

1 **After "previous data reset", enter the mode to be reset.**

2 **Press ◀ and ▶ keys simultaneously.**
(The illustration shows the red zone adjustment case.)



ZONE ADJ
R--

ZONE RED
DATA RESET MODE
Do you wish to return to factory preset data?

YES : ▲
NO : ▼

3 **Press ▲ key.**

For reference — Mode and data reset correspondence

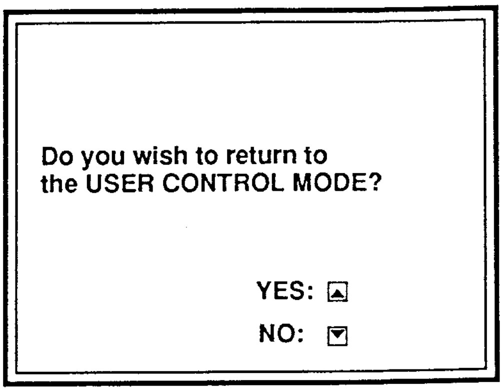
Mode	Data to be reset
RGB size	H-size and V-size
Shift	H-shift and V-shift
R-centering	Not applicable
B-centering	Not applicable
Size, Linearity, Skew, Bow, Keystone, Pincushion	All the registration data for the selected color (including the Zone data)
Zone	Zone data for the selected color
Blanking	UPPER/LOWER/LEFT/RIGHT side blanking data
Gain	All the Bias, Gain data for all colors of the current color temperature
Bias	All the Bias, Gain data for all colors of the current color temperature

1-16. TO MAKE THE SERVICING KEYS INOPERABLE

When you turn off the set, the servicing keys become inoperable in order to prevent the users from changing the registration adjustments.

It is also possible to make the keys inoperable while the power is on in the following way.

1 **Keep pressing NORMAL key for at least 3 seconds.**



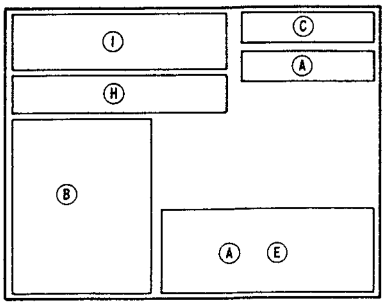
Do you wish to return to
the USER CONTROL MODE?

YES: ▲
NO: ▼

2 **Press ▲ key.**
The servicing keys are now inoperable.

1-17. LIST OF THE MESSAGES

Use the list below to check the meaning of the messages displayed on the screen.
The list is divided into sections depending on the location which the message appears. Check the location first, then refer to the alphabet for the section to find the message.



Ⓓ, Ⓕ, Ⓖ and a part of Ⓘ will appear all over the screen.

A Caution, message	
• Not applicable!	• The key is not applicable in the current mode.
• Overflow!	• The adjustment data has passed the adjustable range limit, and does not change any more.
• PIC MUTE	• Picture mute mode is on.
• Input is not VIDEO.	• The input signal is not VIDEO.
• Input is not NTSC.	• The input signal is not NTSC.
• Input is not RGB.	• The input signal is not RGB.
• Input is B & W.	• The input signal is black and white.
• NO INPUT	• No signal is input.
B PIC CONTROL data	
• CONTR (CONTRAST) • COLOR • BRT (BRIGHTNESS) • SHARP (SHARPNESS) • HUE • PIC CONTROL data reset	• Contrast • Color • Brightness • Sharpness • Hue • Resets the PIC CONTROL data.
C Input channel	
• VIDEO • INPUT-A • INPUT-B	• Input from VIDEO IN. • Input from RGB IN. • Input from optional interface board.
• SW'ER x-y (switcher x = 1-2, y = 1-8)	• Input from optional switcher.
D PAGE	
Subtitle • USER PRESET • USER CONTROL • SYSTEM PRESET • INPUT INFO (INPUT INFORMATION)	 • User preset • User control • System preset • Input information

PAGE 1 • STATUS ON/OFF • PIC MUTE ON/OFF • AUDIO MUTE ON/OFF • CLEAR BLUE ON/OFF/--- • SECAM ON/OFF/---	 • On-screen display on/off • Picture mute mode on/off • Audio mute mode on/off • Clear blue mode on/off/ does not function. • Compulsive SECAM mode on/off/does not function.
PAGE 2 • CONTR (CONTRAST) • COLOR • BRT (BRIGHTNESS) • SHARP (SHARPNESS) • HUE • VOL • PIC CONTROL data reset	 • Contrast • Color • Brightness • Sharpness • Hue • Volume • Resets the PIC CONTROL data.
PAGE 3 • COLOR TEMPEPATURE: 9300/6500/3200/ RESET • CLAMP: AUTO/S on G/H/C	 • Color temperature is set to 9300/6500/3200/the data adjustable by the service personnel. • Clamp position is set to automatic internal/ external sync signal position.
PAGE 4 • INPUT SIGNAL • Y/C	 • Input signal • S video input signal from VIDEO IN
• RGB	• RGB input signal
• NTSC	• NTSC input signal from VIDEO IN
• PAL	• PAL input signal from VIDEO IN
• SECAM	• SECAM input signal from VIDEO IN
• B & W	• Black and white input signal from VIDEO IN
• fH	• Horizontal frequency
• fV	• Vertical frequency
• Internal oscillation	• Internal oscillation mode (No signal is input.)
• H/C-SYNC	• Horizontal sync signal or composite sync signal
• V-SYNC	• Vertical sync signal
• SYNC ON G	• Composite video signal

• H/C-SYNC: POS/NEG/---	• The polarity of the H/C-SYNC is positive/ negative/not input.
• V-SYNC: POS/NEG/---	• The polarity of the V-SYNC is positive/ negative/not input.
• SYNC ON G: NEG/---	• The polarity of the SYNC ON G is negative/not input.

E Operation

• YES: ▲	• Press ▲ for "Yes".
• NO: ▼	• Press ▼ for "No".
• SELECT: ◀ ▶	• Press ◀ or ▶ to select.
• SELECT: ◀ ▶ ▲ ▼	• Press ◀, ▶, ▲, or ▼ to select.
• ADJ: ◀ ▶ ▲ ▼	• Press ◀, ▶, ▲, or ▼ to adjust.
• ADJ: ◀ ▶	• Press ◀ or ▶ to adjust.
• ADJ: ▲ ▼	• Press ▲ or ▼ to adjust.
• NEXT: ⊞ ⊟	• Press ⊞ to move the cursor to the next position. Press ⊟ to move the cursor to the previous position.
• NEXT: [PAGE]	• Press PAGE to go to the next page.
• EXIT: [PAGE]	• Press PAGE to exit the PAGE mode.
• EXIT: [NORMAL]	• Press NORMAL to exit the TEST mode.

F Memory data

• MEMORY DATA in saving.	• Saving the memory data now.
• MEMORY DATA saving is complete!	• Saving the memory data is completed.
• No key may be applicable during the indication of this mode.	• When in this mode (MEMORY DATA saving), no key functions.
• The registration data will be used as standard for all inputs OK?	• Is it all right that this registration data will be used as standard for all inputs?

G Data reset

• Do you wish to return to factory preset data?	• Do you wish to reset the data to the factory preset data?
• Do you wish to return to previously saved data?	• Do you wish to reset the data to the previously saved data?
• Reset complete!	• Resetting is completed.
• RGB SIZE DATA RESET MODE.	• RGB input size data resetting mode
• RGB SHIFT DATA RESET MODE.	• RGB input shift data resetting mode
• BLANKING DATA RESET MODE.	• Blanking data resetting mode
• CENTERING ALL COLOR DATA RESET MODE.	• Centering data (all color) resetting mode
• W/B GAIN & BIAS ALL COLOR DATA RESET MODE.	• Gain, bias (all color) data resetting mode
• REGISTRATION (RED/ GREEN/BLUE) DATA RESET MODE	• Registration (red, green or blue) data resetting mode

H Raster

• RASTER R G B	• Red, green and blue are projected.
• RASTER R - -	• Only red is projected.
• RASTER - G -	• Only green is projected.
• RASTER - - B	• Only blue is projected.
• RASTER R G -	• Red and green are projected.
• RASTER R - B	• Red and blue are projected.
• RASTER - G B	• Green and blue are projected.

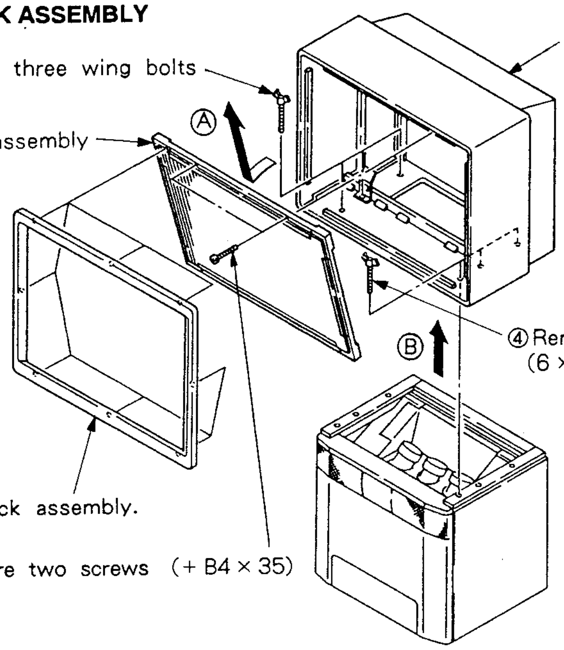
I Adjustment

• RGB SIZE ADJ	• RGB input size adjustment mode
• RGB SHIFT ADJ	• RGB input shift adjustment mode
• R CENT ADJ	• Red centering adjustment mode
• G CENT ADJ	• Green centering adjustment mode
• B CENT ADJ	• Blue centering adjustment mode
• SIZE ADJ	• Size adjustment mode
• LIN (LINEARITY) ADJ	• Linearity adjustment mode
• SKEW ADJ	• Skew adjustment mode
• BOW ADJ	• Bow adjustment mode
• KEY (KEYSTONE) ADJ	• Keystone adjustment mode
• PIN (PINCUSHION) ADJ	• Pincushion adjustment mode
• ZONE ADJ	• Zone adjustment mode
• BLKG ADJ UPPER/ LOWER/LEFT/RIGHT	• Blanking adjustment (upper, lower, left, or right) mode
• BIAS ADJ	• White balance bias adjustment mode
• GAIN ADJ	• White balance gain adjustment mode
• Do you wish to enter the SERVICEMAN CONTROL MODE?	• Do you wish to enter the service personnel control mode?
• Do you wish to return to the USER CONTROL MODE?	• Do you wish to return to the user control mode?

MEMO

SECTION 2
DISASSEMBLY

2-1. REMOVE THE CABINET(U)BLOCK ASSEMBLY



③Remove the three wing bolts (6 × 40).

②Remove the screen brass block assembly in the direction of arrow Ⓐ.

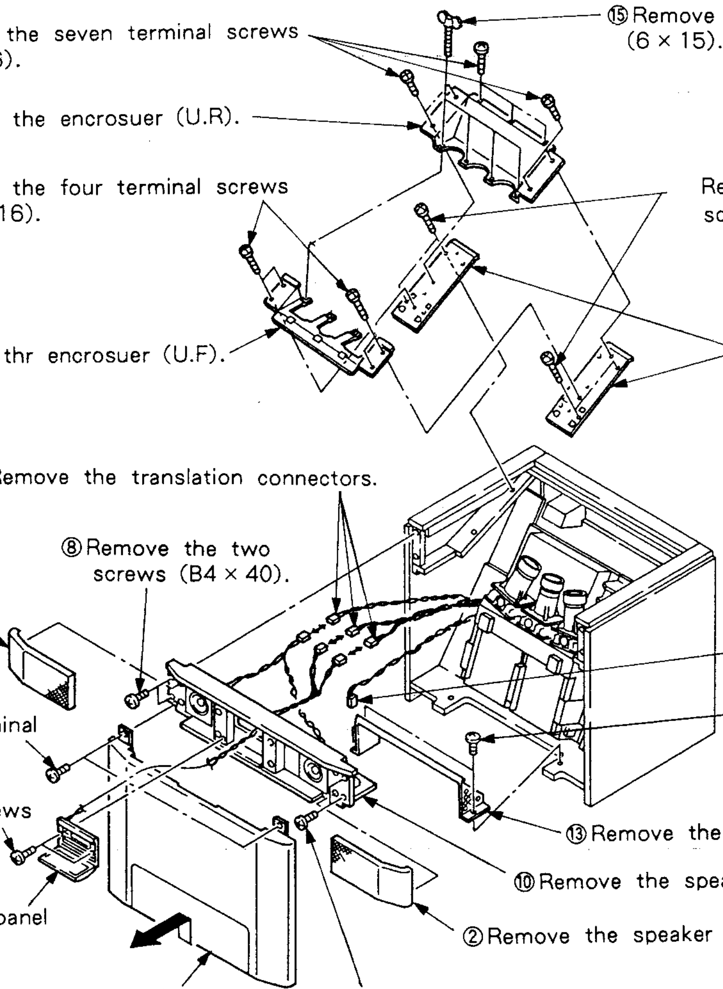
⑤Remove the cabinet (U) block assembly in the direction of arrow Ⓑ.

④Remove the three wing bolts (6 × 40).

①Remove the screen frame block assembly.

Remore two screws (+ B4 × 35)

2-2. REMOVE THE FRONT COVER AND ENCLOSUER



⑭Remove the seven terminal screws (M4 × 16).

⑮Remove the four wing bolts (6 × 15).

⑯ Remove the encrosuer (U.R).

⑰ Remove the four terminal screws (M4 × 16).

Remove the four terminal screws (M4 × 16).

⑱Remove thr encrosuer (U.F).

Remove the encrosuer support.

⑦Remove the translation connectors.

⑧Remove the two screws (B4 × 40).

①Remove the speaker grille assembly.

⑪Remove the connetor.

③Remove the two terminal screws (M4 × 16).

⑫Remove the two terminal screws (M4 × 16).

⑤Remove the two screws (B4 × 40).

⑬Remove the enclosure (L).

⑩Remove the speaker baffle assembly.

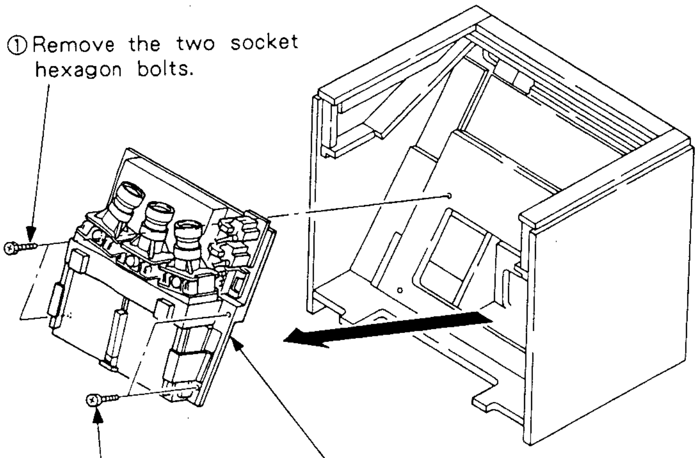
⑥Remove the control panel brock assembly.

②Remove the speaker grille assembly.

④Remove the front cover assembly in the direction of arrow.

⑨Remove the two screws.

2-3. REMOVE THE CHASSIS ASSEMBLY

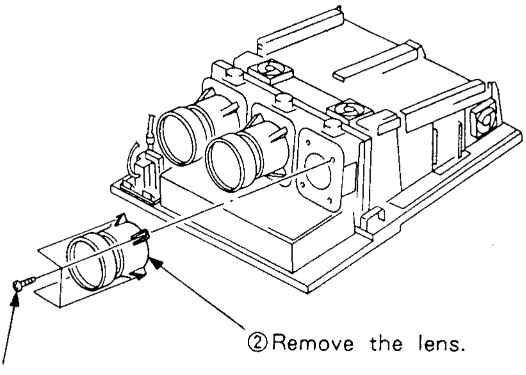


① Remove the two socket hexagon bolts.

② Remove the two socket hexagon bolts.

③ Remove the chassis assembly.

2-4. REMOVE THE LENS



① Remove the four screws (B5 × 14).

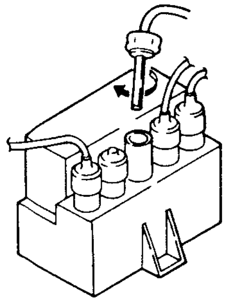
② Remove the lens.

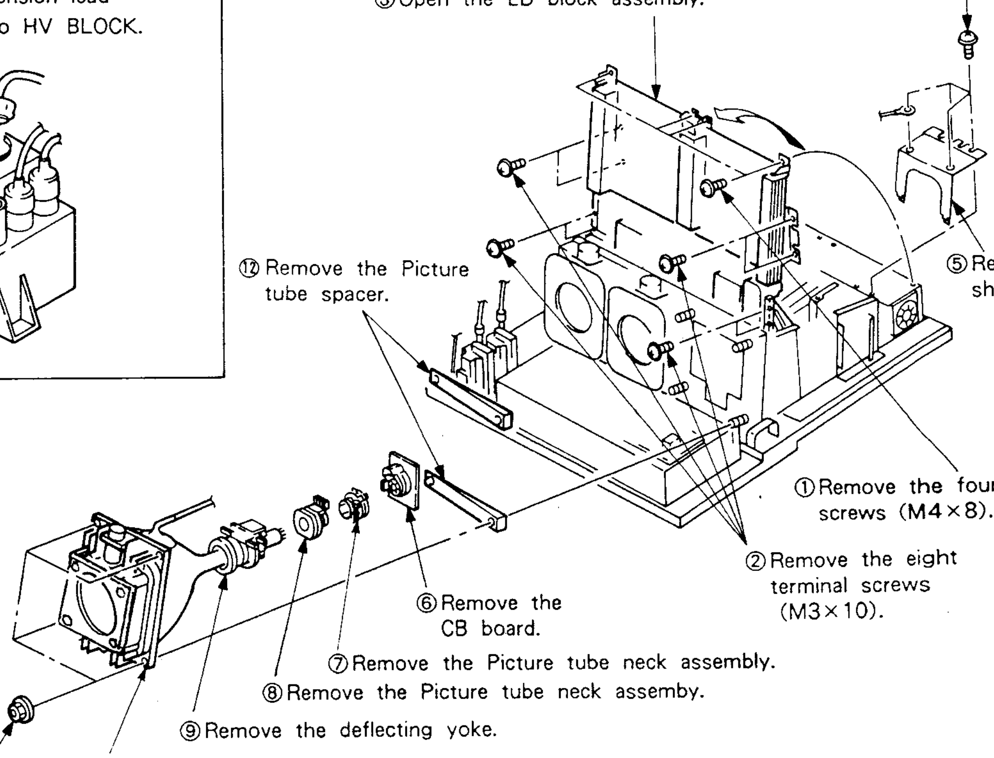
2-5. REMOVE THE PICTURE TUBE

HIGH VOLTAGE CABLE REMOVAL

① Pressing cable, turn 90°

② Pull out a high-tension lead wire connected to HV BLOCK.





① Remove the four terminal screws (M4 × 8).

② Remove the eight terminal screws (M3 × 10).

③ Open the ED block assembly.

④ Remove the four terminal screws (M3 × 10).

⑤ Remove the shield cover.

⑥ Remove the CB board.

⑦ Remove the Picture tube neck assembly.

⑧ Remove the Picture tube neck assemby.

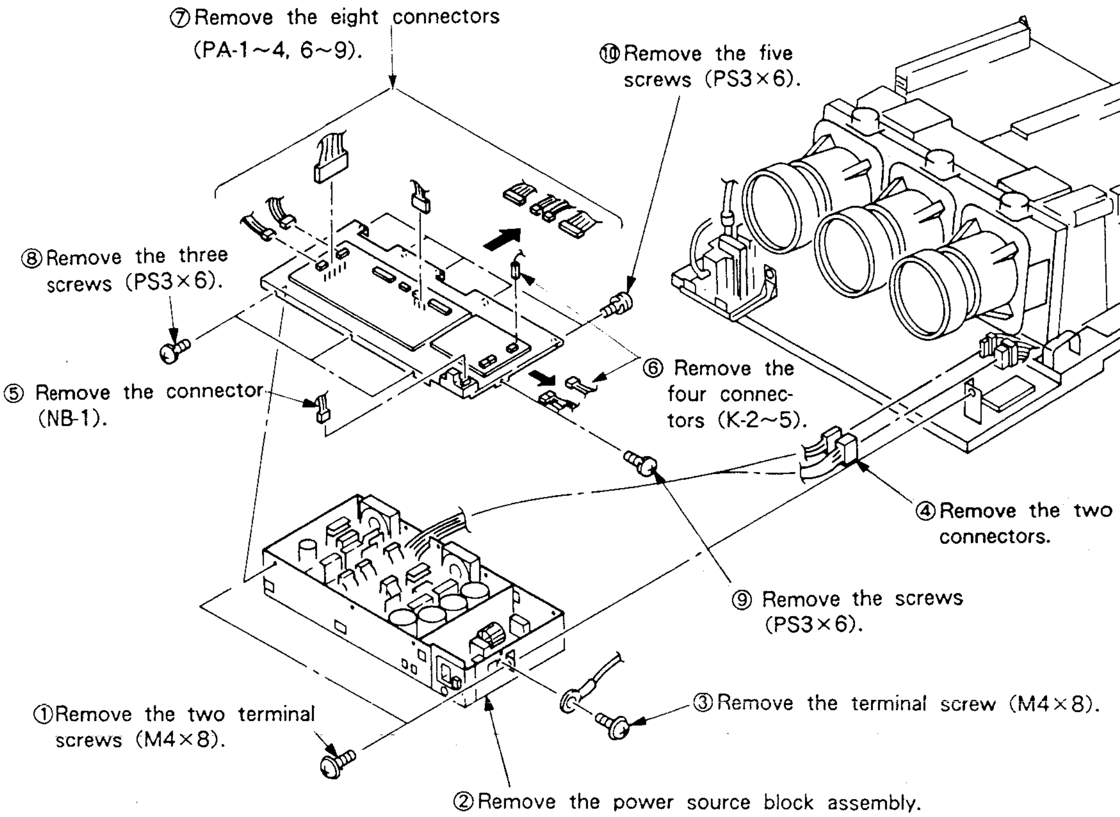
⑨ Remove the deflecting yoke.

⑩ Remove the four flange nuts (M5).

⑪ Remove the Picture tube.

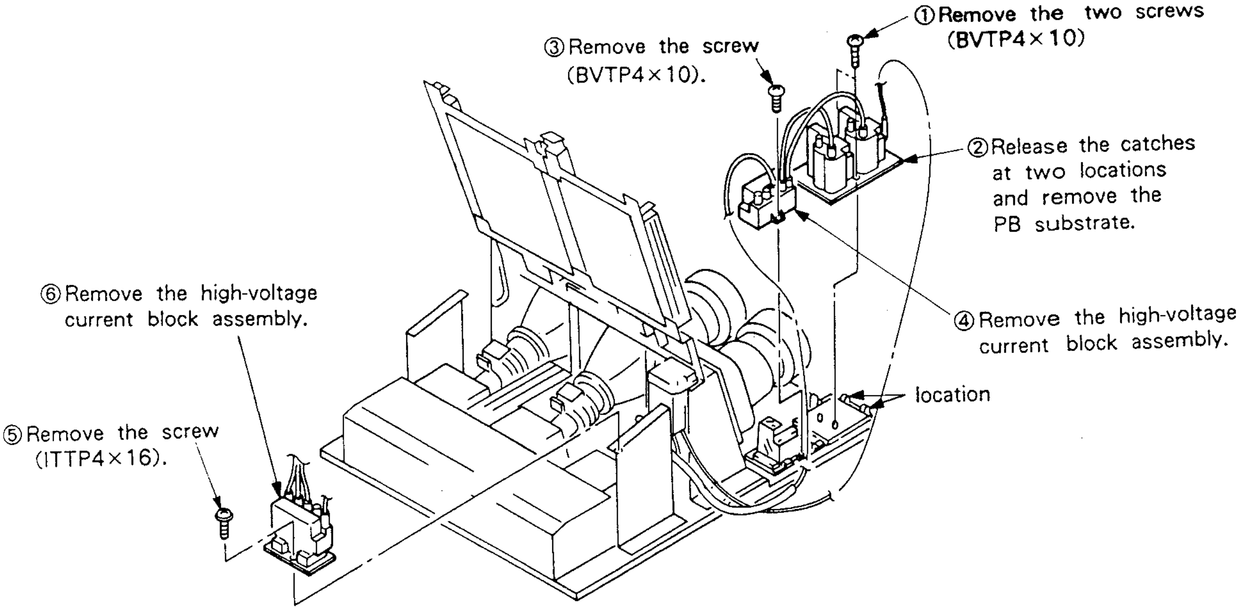
⑫ Remove the Picture tube spacer.

2-6. REMOVE THE POWER SOURCE BLOCK ASSEMBLY

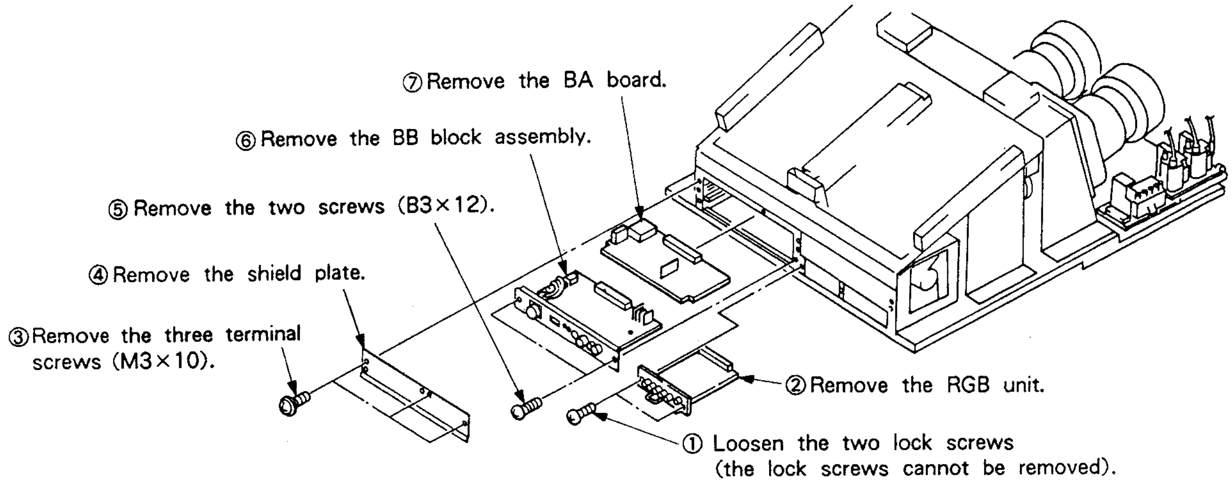

⑦Remove the eight connectors (PA-1~4, 6~9).
⑩Remove the five screws (PS3×6).
⑧Remove the three screws (PS3×6).
⑤ Remove the connector (NB-1).
⑥ Remove the four connectors (K-2~5).
④Remove the two junction connectors.
⑨ Remove the screws (PS3×6).
①Remove the two terminal screws (M4×8).
③Remove the terminal screw (M4×8).
②Remove the power source block assembly.

2-7. REMOVE THE HIGH-VOLTAGE CURRENT BLOCK ASSEMBLY

Note : Be sure to remove the lens (B) and to open the ED block assembly.
(refer to 2-1 and 2).

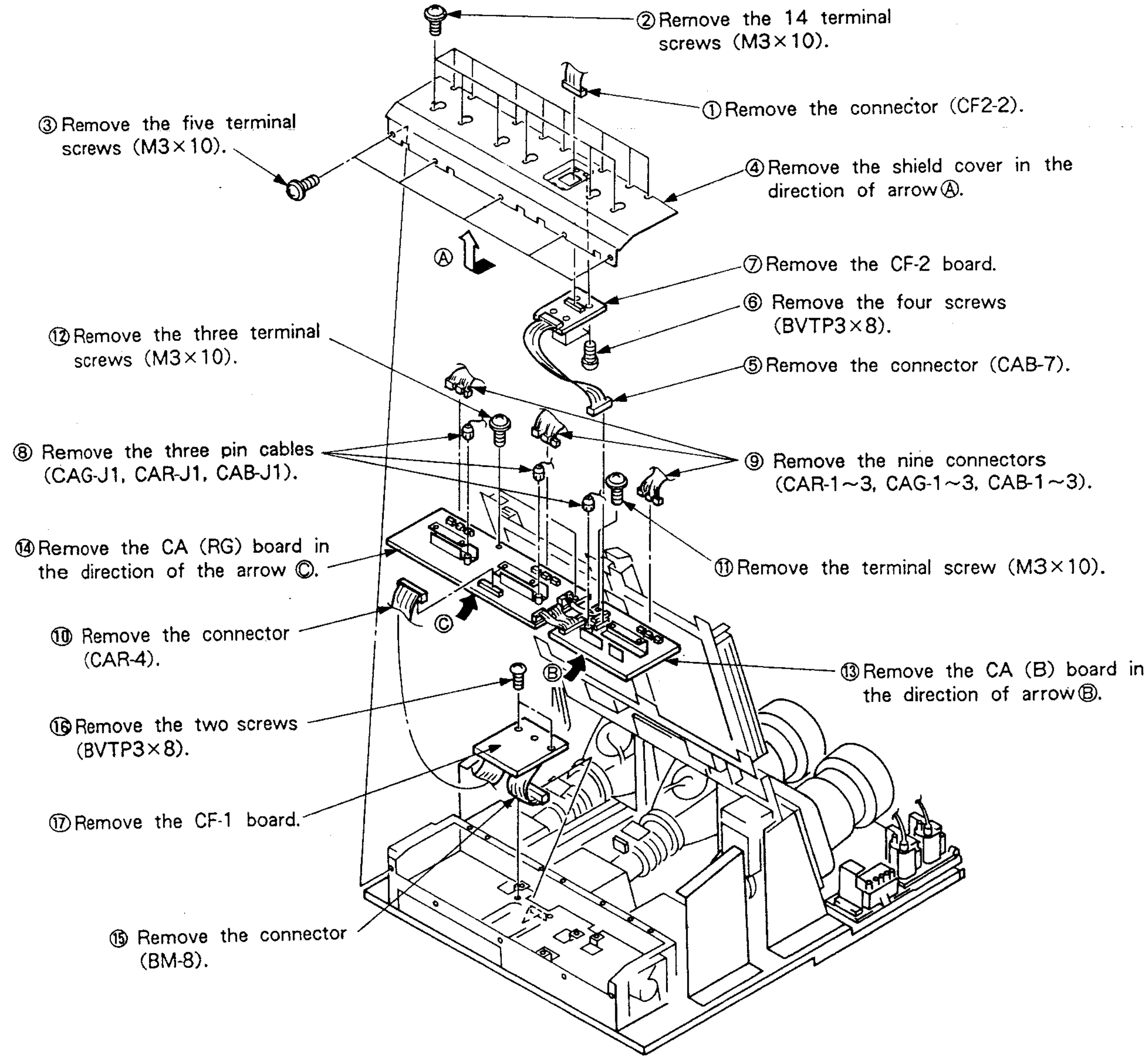

①Remove the two screws (BVTP4×10)
③Remove the screw (BVTP4×10).
②Release the catches at two locations and remove the PB substrate.
⑥Remove the high-voltage current block assembly.
④Remove the high-voltage current block assembly.
location
⑤Remove the screw (ITTP4×16).

2-8. REMOVE THE R.G.B. UNIT, BA BOARD, AND BB BLOCK ASSEMBLY


⑦ Remove the BA board.
⑥ Remove the BB block assembly.
⑤ Remove the two screws (B3×12).
④ Remove the shield plate.
③ Remove the three terminal screws (M3×10).
② Remove the RGB unit.
① Loosen the two lock screws (the lock screws cannot be removed).

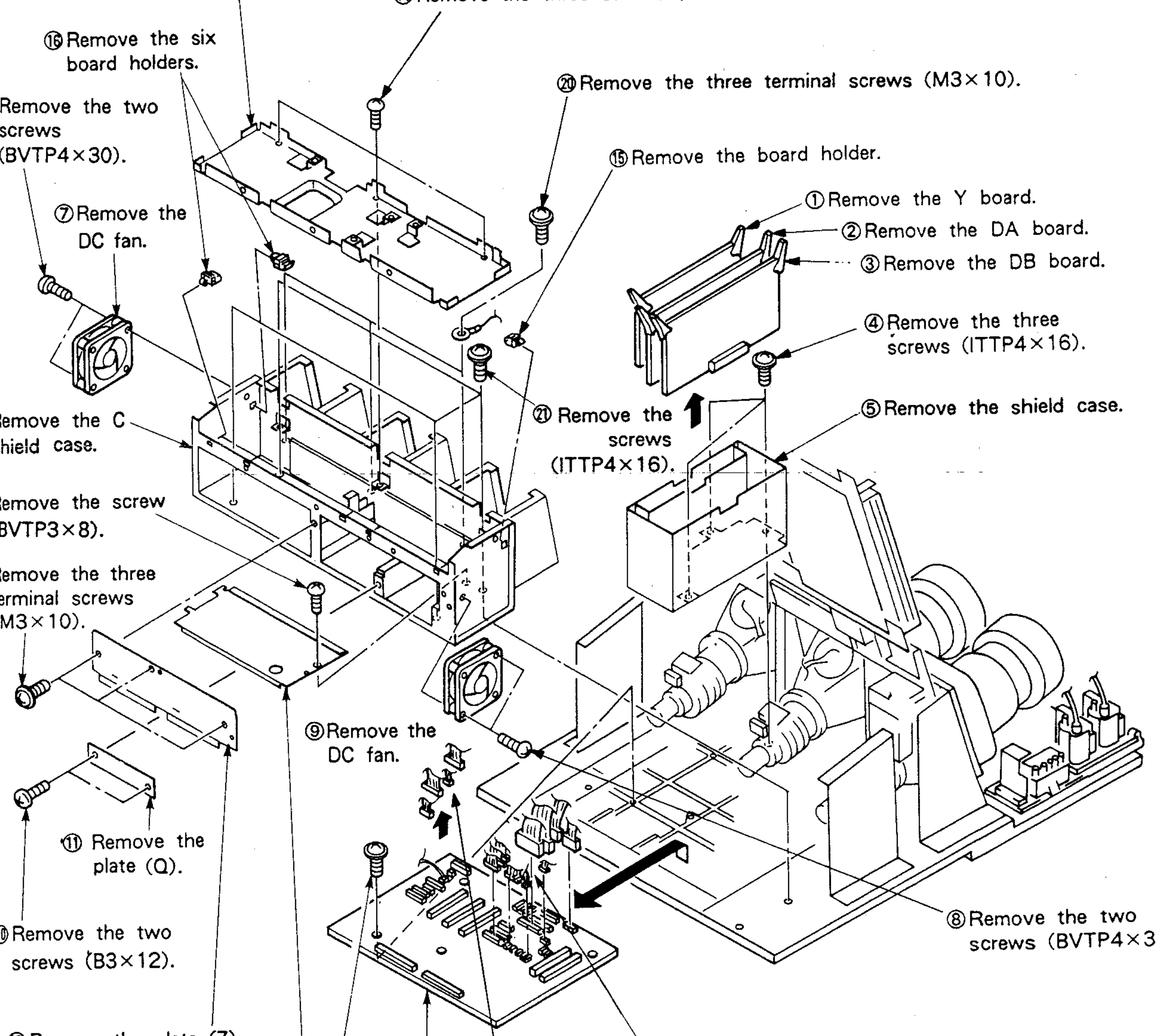
2-9. REMOVE THE CF-1, CF-2, CA (RG) AND CA (B) BOARDS

Note : The ED block assembly should be opened and the BA board and BB clock assembly should be removed beforehand. (see 2-2, 5).


② Remove the 14 terminal screws (M3×10).
① Remove the connector (CF2-2).
③ Remove the five terminal screws (M3×10).
④ Remove the shield cover in the direction of arrow Ⓐ.
Ⓐ
⑦ Remove the CF-2 board.
⑥ Remove the four screws (BVTP3×8).
⑫ Remove the three terminal screws (M3×10).
⑤ Remove the connector (CAB-7).
⑧ Remove the three pin cables (CAG-J1, CAR-J1, CAB-J1).
⑨ Remove the nine connectors (CAR-1~3, CAG-1~3, CAB-1~3).
⑭ Remove the CA (RG) board in the direction of the arrow Ⓒ.
⑪ Remove the terminal screw (M3×10).
⑩ Remove the connector (CAR-4).
Ⓒ
Ⓑ
⑬ Remove the CA (B) board in the direction of arrow Ⓑ.
⑯ Remove the two screws (BVTP3×8).
⑰ Remove the CF-1 board.
⑮ Remove the connector (BM-8).

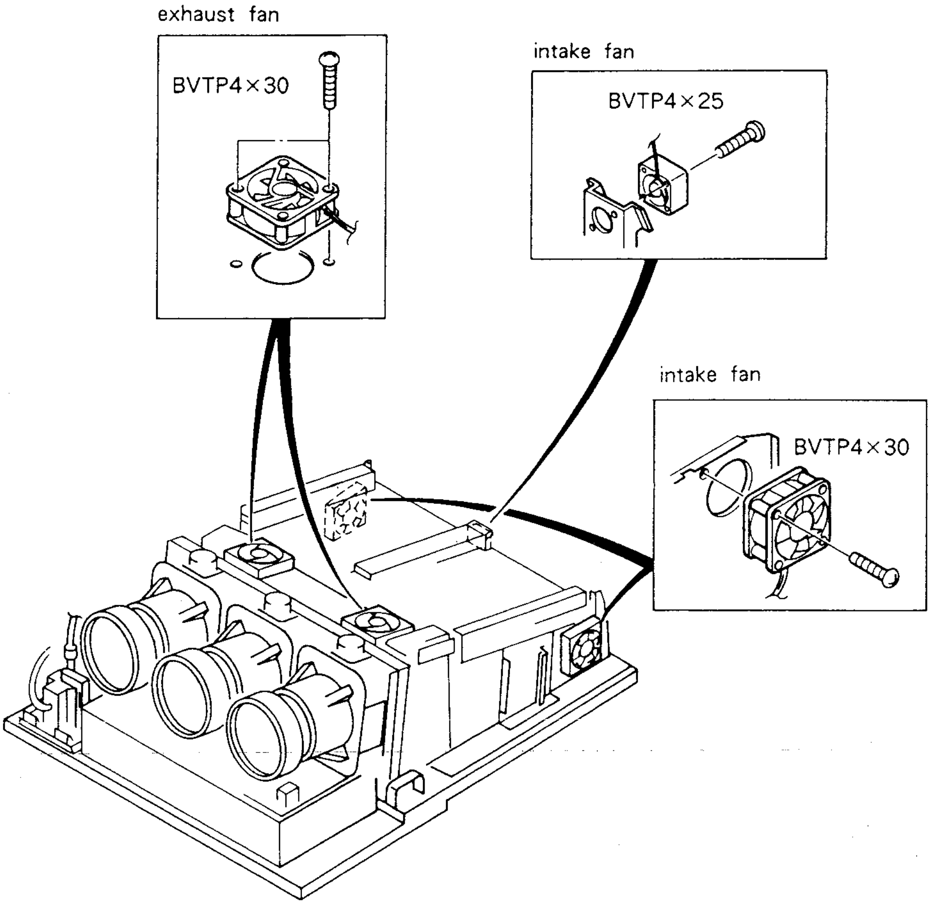
2-10. REMOVE THE Y, DA, DB AND DM BOARDS

Note :
- Be sure to first open the ED block assembly, and remove the CB board (see 2-2).
- Remove the high-voltage current block (see 2-4).
- Remove the RGB unit, BA board and BB block assembly (see 2-5).
- Remove the CF-1, CF-2, CA (RG) and CA (B) assemblies (see 2-6).



① Remove the Y board.
② Remove the DA board.
③ Remove the DB board.
④ Remove the three screws (ITTP4×16).
⑤ Remove the shield case.
⑥ Remove the two screws (BVTP4×30).
⑦ Remove the DC fan.
⑧ Remove the two screws (BVTP4×30).
⑨ Remove the DC fan.
⑩ Remove the two screws (B3×12).
⑪ Remove the plate (Q).
⑫ Remove the three terminal screws (M3×10).
⑬ Remove the plate (Z).
⑭ Remove the three screws (BVTP3×8).
⑮ Remove the board holder.
⑯ Remove the six board holders.
⑰ Remove the shield plate.
⑱ Remove the screw (BVTP3×8).
⑲ Remove the shield plate.
⑳ Remove the three terminal screws (M3×10).
㉑ Remove the screws (ITTP4×16).
㉒ Remove the C shield case.
㉓ Remove the four connectors (DM8, 9, 23, 29).
㉔ Remove the twelve connectors (DM6, 7, 10, 11, 18~22, 27, 28, 35).
㉕ Remove the screw (ITTP4×16).
㉖ Remove the DM board in the direction of arrow Ⓐ.

2-11. ATTACHMENT DIRECTION FOR THE DC FAN


exhaust fan
BVTP4×30
intake fan
BVTP4×25
intake fan
BVTP4×30

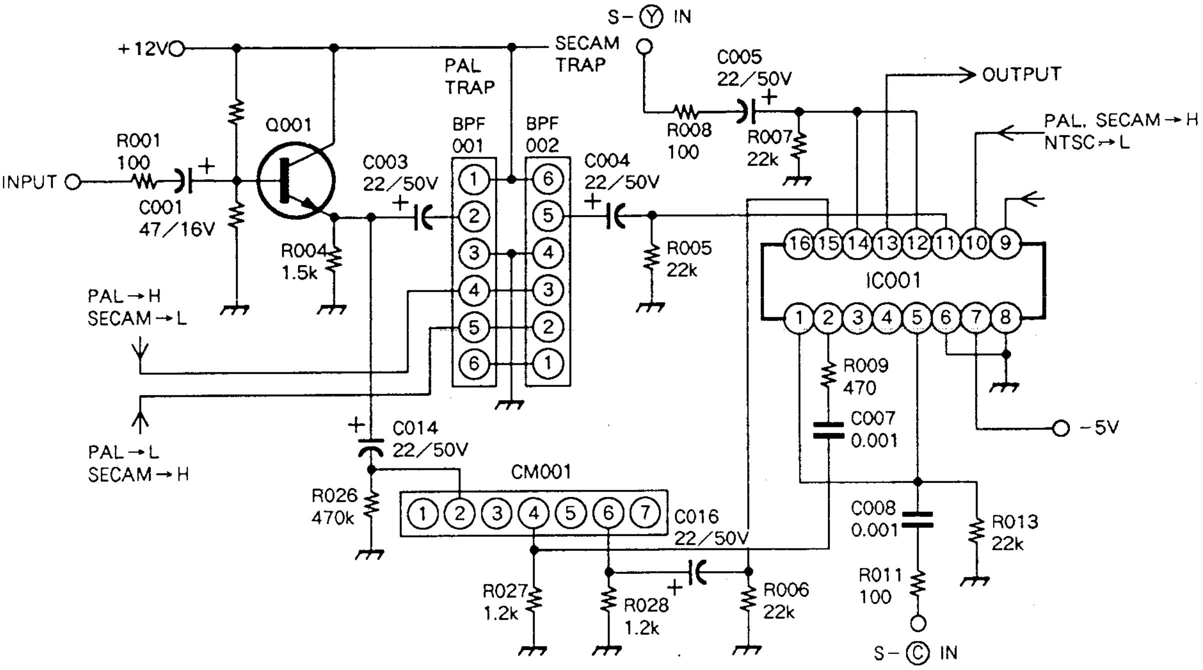
SECTION 3
CIRCUIT DESCRIPTIONS

3-1. Circuit Board BA

Y SIGNALS

1. The TRAP Circuit

The TRAP circuit receives video signals after the signals are fed through Q001. The TRAP circuit is used to extract the chrominance portion of the video signal. However, since this device is equipped to receive 3 types of chrominance frequencies (SUB CARRIERS), namely PAL, SECAM, NTSC 3.58 and NTSC 4.43, it is necessary to switch the TRAP circuit for each type of signal (except for PAL and NTSC 4.43 whose SUB CARRIERS are identical).


S-Ⓨ IN
+12V
SECAM TRAP
PAL TRAP
C005 22/50V
OUTPUT
Q001
BPF 001
BPF 002
R008 100
R007 22k
PAL, SECAM→H
NTSC→L
R001 100
C003 22/50V
C004 22/50V
INPUT
C001 47/16V
R004 1.5k
R005 22k
IC001
PAL→H
SECAM→L
R009 470
C007 0.001
-5V
PAL→L
SECAM→H
C014 22/50V
CM001
R026 470k
C016 22/50V
C008 0.001
R013 22k
R011 100
R027 1.2k
R028 1.2k
R006 22k
S-Ⓒ IN

<PAL Mode>

Video signals are first input into pin ② of BPF001 wheresignals in the vicinity of 4.43MHz are extracted. The signals are then sent out through pin ⑥ and are input into pin ① of BPF002. BPF0011 and BPF002 are respectively a PAL TRAP and a SECAM TRAP, while pin ④ of BPF001 provides PAL CONT and pin ⑤, SECAM CONT. In all cases, the TRAP is activated when the respective pin signals are High. When operating under the PAL mode, pin ④ will become High and pin ⑤ Low ; the signals pass through BPF002 and appear on pin ⑤ after which they are input into pin ⑪ of IC001. This chip is a switching IC used to switch between PAL, NT 4.43, NT 3.58 and YC signals. Recall that NTSC 4.43 and PAL employ the same method.

<SECAM Mode>

The steps followed are identical to PAL up to the point where the signals are input into pin ① of BPF002. With the SECAM mode, however, pins ④ and ⑤ of BPF001 will both turn High. After signals in the vicinity of 4.43MHz and 4.25 MHz are extracted, the signals are then output from pin ⑤ of BPF002 and input into pin ⑪ of IC001.

<NTSC 3.58 Mode>

Y signals are input into pin ② of CM001 (Comb Filter) while pin ⑥ and pin ④ output Y signals and chrominance signals respectively. Y signals are input into pin ⑮ of IC001 and chrominance signals into pin ② of this IC.

<B/W Signals>

B/W signals are input into pin ③ of BPF001, and are output from pin ⑤ of BPF002. This is a thru output obtained when the control terminals of BPF001 (pins ④ and ⑤) are Low and both traps are disabled. Subsequently, it is input into pin ⑪ of IC001.

2. YC Signals

YC signals are fed to board BB in the form of S−VIDEO −input. Y signals are input into pins ⑫ and ⑭ of IC001 while C signals are input into pins ① and ⑤.

3. IC001 (HD24052BP)

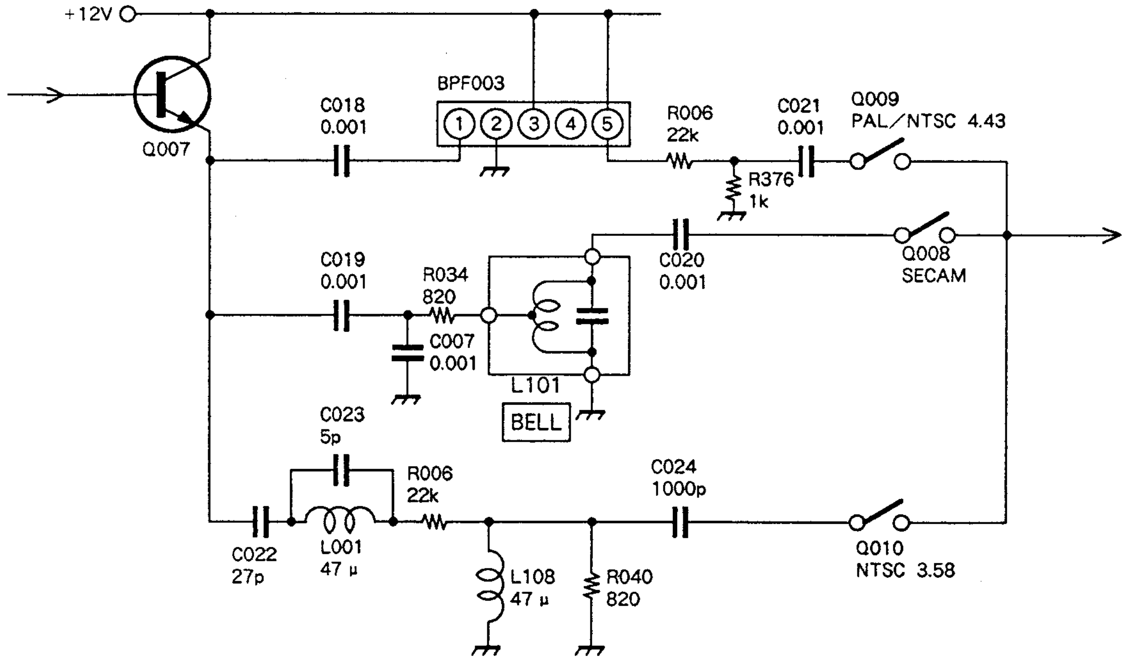
This IC switches between PAL, SECAM, and, NTSC 4.43/NTSC 3.58/YC modes. Outputs appears on pin ⑬ for Y signals and pin ③ for chrominance signals. The signal status of the controller terminals, pins ⑨ and ⑩, are shown in the following diagram. (diagram)

	⑨	⑩
PAL • SECAM • NT4.43 • B/W	H	H
NT3.58	H	L
YC	L	−

4. SHARPNESS IC

Y signals output from pin ⑬ of C001 pass through the Delay Line; AMP Q003, Q004, and Q005; and finally the CLAMP circuit (Q212, 213). The signals are then input into pin ⑬ of IC005. The signals also serve as input signals for board BC (IDTV board) ; these are output from BA−1 31a.

The 2Y signals received from the BC board are switched by IC005 and output from pin ⑭. They are then input into pin ② of IC010 (SHARPNESS IC). The control terminals pins ⑨, ⑩ and ⑪ are High for VIDEO mode and Low for IDTV mode. For IC010, signals was peaked at about 3.6MHz for VIDEO mode and at approximately 6.6MHz for IDTV modes and are output from pin ⑩. Pin ⑧ is the sharpness control terminal; control voltage is −2.5V to 2.5V. Signals output from pin ⑩ are input into pin ⑦ of R. G .B . MATRIX IC003 (CXA−1216P).


+12V
Q007
C018
0.001
BPF003
①②③④⑤
R006
22k
C021
0.001
Q009
PAL/NTSC 4.43
R376
1k
C020
0.001
Q008
SECAM
C019
0.001
R034
820
C007
0.001
L101
BELL
C023
5p
R006
22k
C024
1000p
C022
27p
L001
47 μ
L108
47 μ
R040
820
Q010
NTSC 3.58

CHROMINANCE SIGNALS

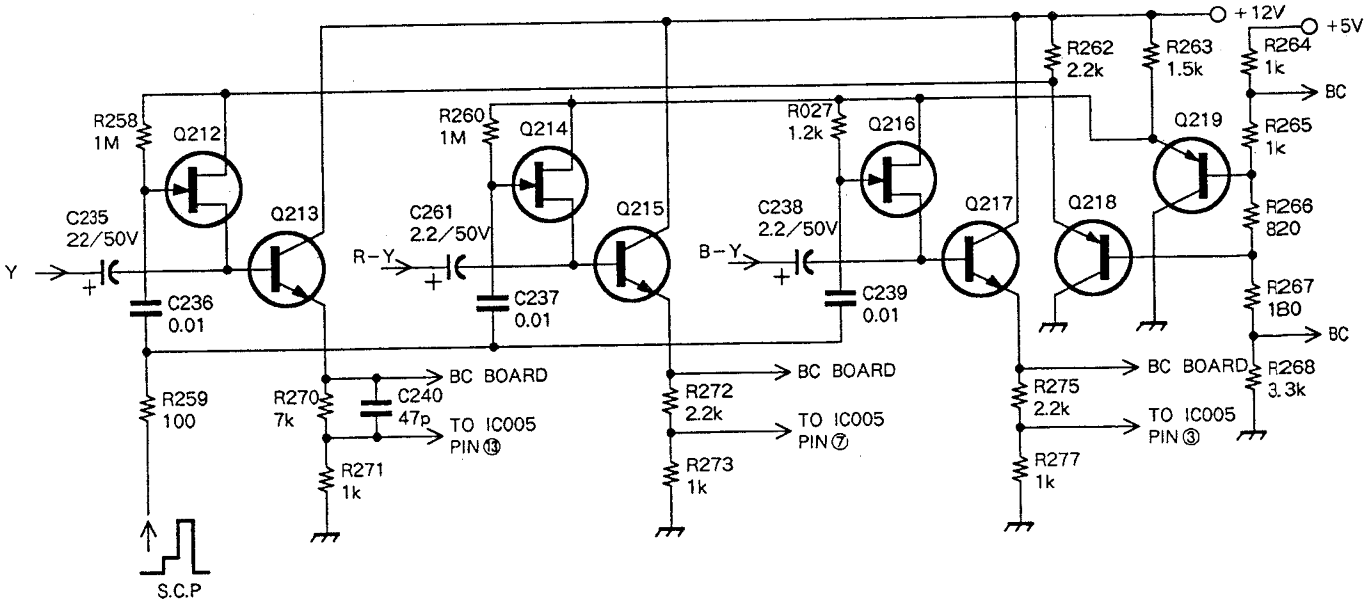
PAL, SECAM, and NTSC 4.43 signals pass through Q001 and after DC cut at C009, are input into pin ④ of IC001. NTSC 3.58 signals go through COMB FILTER CM001 while Chrominance signals are input into pin ② of IC001. After being output from pin ③ of IC001, each signal is passed through a band−pass filter. This circuit is shown below. (circuit diagram)

1. IC002 (TDA4555V8)
   Chrominance signals are input into pin ⑮ of the decoder IC002 (TDA4555V8) after they are passed through the respective BPF. PAL and SECAM signals are output from pin ⑫ and fed through the DELAY LINE. The signals are then 1H delayed and input into pin ⑩. After the phase and level are adjusted by L103 and RV101, decoding takes place by adding the signals input from pin ⑮. Subsequently, the R−Y signals are output from pin ①, and the B−Y signals from pin ③. In the case of NTSC signals, the signals are decoded with out passing through the DELAY LINE ; the R−Y signals are output from pin ① while the B−Y signals are output from pin ③.

The ID circuit is comprised of the following 3 of circuits.

a) A phase discriminator. This circuit compares the burst signals for PAL and NTSC modes against its internal reference signals.
b) Frequency discriminating circuit which is used to derive the H/2 signal in SECAM transmissions. It consists of an internal frequency discriminator and an external phase shift detector circuit, connected to pin ㉒ (SECAM ID reference circuit).
c) A logic circuit that provides H/2 signal detection for PAL and SECAM modes, in addition to its original ID function.

2. CLAMP CIRCUIT
   The color−difference signal output from IC002 goes through the CLAMP circuit and enters IC005, an IC used for switching between IDTV. The operation of IC005 is identical to that of the Y signal. Output signals from IC005 are input into an R. G. B. MATRIX IC003 (CXA−1216P).


+12V
+5V
R258 1M
Q212
C235 22/50V
Y
C236 0.01
R259 100
S.C.P
Q213
R270 7k
C240 47p
R271 1k
BC BOARD
TO IC005 PIN⑬
R260 1M
Q214
C261 2.2/50V
R−Y
C237 0.01
Q215
R272 2.2k
R273 1k
BC BOARD
TO IC005 PIN⑦
R027 1.2k
Q216
C238 2.2/50V
B−Y
C239 0.01
Q217
R275 2.2k
R277 1k
BC BOARD
TO IC005 PIN③
Q218
R262 2.2k
R263 1.5k
Q219
R264 1k
BC
R265 1k
R266 820
R267 180
BC
R268 3.3k

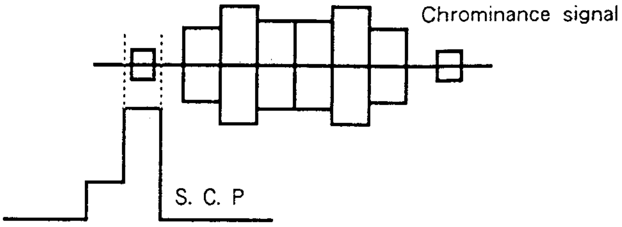
3. HUE/COLOR CONTROL
A HUE/COLOR CONTROL voltage ranging from −2.5V to 2.5V is sent to operational amplifire IC012 where the control voltage of CXA1216P is converted to between 2V and 7V.
Because of inconsistencies in IC and resistors, adjustments are made using 3 volumes controls, namely SUB HUE (RV102/VOL for NTSC), HUE ADJ (RV204) and SUB COL (RV205).

4. SUB BRIGHT/SUB PICTURE
Pin ㉗ of IC003 (CXA−1216P) is the CONTROL terminal for PICTURE while pin ㉓ is for BRIGHTNESS. The PICTURE level output is changed by rotating RV203 (SUB PIC) ; turning RV201 (SUB BRT) changes the blackness level.

IC004 (TDA2595)

Y signals are first passed through the DELAY LINE and then to AMP Q003/004/005 after which they are fed through the SYNC CHIP CLAMP circuit, comprised of Q352/351. Finally, the signal is input into pin ⑪ of IC004 (TDA2595). IC004 outputs the sandcastle pulse to pin ⑥ and C. Sync pulse to pin ⑨. The sandcastle pulse is input into pin ㉔ of IC002 (TDA4555−V8) while it also goes into the CLAMP circuit. C. Sync goes into the sync sep circuit, resulting in the output of H. SYNC and V. SYNC pulses. H. SYNC is sent to pin ⑬ of IC006 (TC74HC157AP) via R240 while it is also input into the BC board where it becomes 2H. SYNC and input into pin ⑭ of IC006.
V. SYNC is input into pin ⑩ of IC006 via collector Q207 as well as into the BC board where it is converted to 2V. SYNC. The latter signal is input into pin ⑪ of IC006.
Signals converted by IC006 are output as follows : H. SYNC from pin ⑫, V.SYNC from pin ⑨ and connector BA−1 a−3 HD (1) C−3 VD (1). The C. BLK signals from pin ② of IC004 are merged with the C.BLK signals (BA−1 C−23) input from the DA board and fed into pin ① of IC003

The diagram to the right indicate the phase relationship of pin ⑮ of IC002, the chrominance signal and S. C. P of pin ㉔.



IC009 (CX-7916)

CX-7916 detects between 50Hz and 60Hz by receiving H. SYNC on pin ① and V. SYNC on . ⑤.

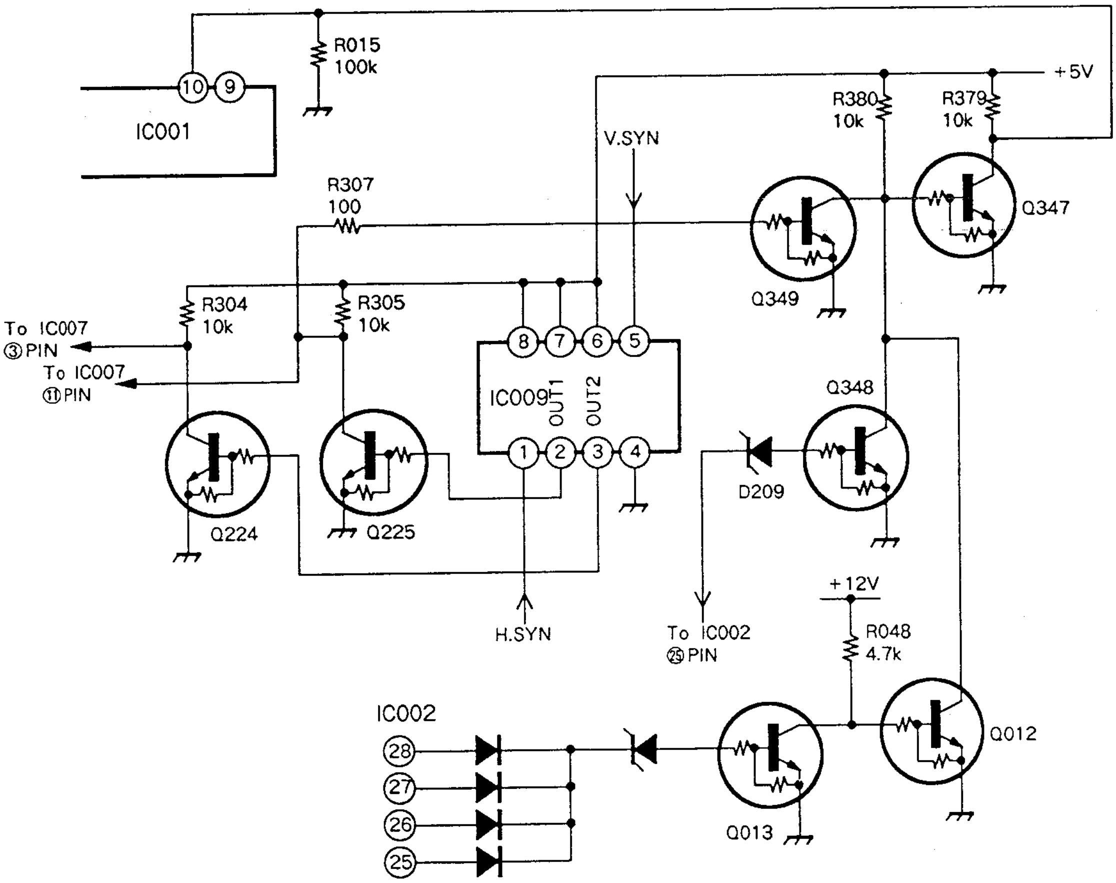
INPUT	②	③
50Hz (PAL, SECAM)	L	H
60Hz (NTSC 3.58 4.43)	H	L

The operation of the peripheral circuitry of IC009 are as follows :

1. NTSC 3.58
   Pin ② of IC009 becomes High and Q225 turns ON, making collector Q225 Low while Q349 is turned OFF and the collector becomes High. Further, Q347 becomes ON and the collector Low, causing pin ⑩ of IC001 to become Low.

3. NTSC 4.43
   Pin ② of IC009 turns High, providing the same operation asNTSC 3.58. However, since Q348 becomes ON and the collector Low while pin ㉕ of IC002 is High, pin ⑩ of IC001 becomes High.

4. B/W
   When color signals are being received, pin ㉕, ㉖, ㉗, or ㉘ of IC002 will be High. In addition, Q013 is turned ON causing the collector to be Low while Q012 is turned OFF causing the collector to be High. These results in the previously described operation. For B/W signals, however, Q013 does not turn ON, and the collector will be High and Q012 turned ON, causing the collector to drop to Low. As a result, Q347 will be OFF and pin ⑩ of IC001 will be High.

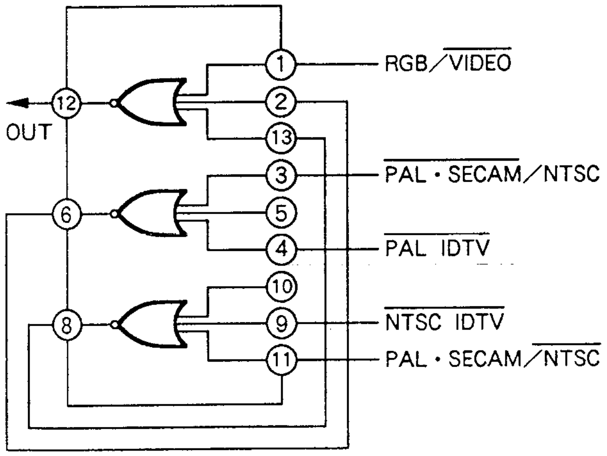

R015
100k
10
9
IC001
R307
100
V.SYN
R380
10k
R379
10k
+5V
Q347
Q349
R304
10k
R305
10k
To IC007
③PIN
To IC007
⑪PIN
8
7
6
5
IC009
OUT1
OUT2
1
2
3
4
Q348
D209
Q224
Q225
H.SYN
To IC002
㉕PIN
+12V
R048
4.7k
IC002
28
27
26
25
Q013
Q012

2. PAL/SECAM
   Pin ② of IC009 becomes Low while Q225 is turned off and the collector becomes High. Q349 turns ON and the collector becomes Low, causing pin ⑩ of IC001 to turn High when collector Q347 becomes High.

5. IC003 (CXA-1216P)
   IC003 (CXA-1216P) is an R. G. B. MATRIX IC. Pin ⑦ inputs Y signals, pin ⑥ inputs B-Y signals and pin ⑤ R-Y inputs while pin ① receives the BLK pulse (refer to section on IC004) and pin ③ receives the B. P. CLAMP pulse. Pins ⑮, ⑰, and ⑲ outputs B, G and R signals respectively.

6. a) DYNAMIC PICTURE SW.
   Pin ⑪ of this IC003 is an auto-pedestal which activates the dynamic picture when SW1 is in the open position.
   b) IC007 (TC74HC27AP)
   This IC is an IDTV (BC board) SW whose pin ⑫ becomes Low in IDTV MODE, High in VIDEO MODE and Low in RGB MODE.
   This line controls pins ⑨, ⑩ and ⑪ on IC007 (control terminal for switching signals Y, R-Y, B-Y for VIDEO and 2Y, 2(R-Y), 2(B-Y) on the BC board); pin ① of IC006 (control terminal for H. SYNC signal for VIDEO and 2H, 2V. SYNC signals on the BC board); and finally, pin ④ of IC010 (control terminal for sharpness control).

IC007 (TC74HC27AP)



3-2. Circuit Board BB

RGB INPUT (VIDEO SECTION)

The RGB signals received through Input A or B are each input into pin ⑧ of RL401, 402, 403, after passing through 7A, 9A, 11A of connector BB-1. On the other hand, the RGB signals received through the switcher and CCQ are input into pins ⑬, ⑪, ⑨ of connector BB-2. These signals are then input into pin ⑭ of RL401, 402, 403. Pin ① of RL is controlled according to the mode shown in chart 1 and either of the signals output from pin ⑪ goes into C651, C660, C668.

Chart 1

SLOT SEL (BB-1 23B)	RL401, 402, 403 Pin ①	RL Output Pin ⑦
H	H (CCQ)	Pin ⑭
L	L (INPUT A, B)	Pin ⑧

The red signal is clamped by a clamp circuit comprised of Q666, IC410 so that the pedestal level of the signal fed through Q667, 650 is identical to pin ⑤ of IC410. After clamping, the signal passes through Q670, 674, 678; an AMP section comprised by Q682, 683, 684, 685, 686 and is output from 17B of connector BB-1. The circuit of the blue signal is similar and the signal is output from 19B of connector BB-1. As far as the green signal is concerned, the signal passes through a clear blue circuit (refer to page P-14) after which it follows a similar path and is output from 18C.

VIDEO INPUT (VIDEO SECTION)

Signals from this device'S VIDEO IN terminal passes through R539 and the buffer of Q509 and are input into pin ⑫ of IC404. Moreover, as far as the signals received through the S-terminal IN terminal is concerned, Y-signals are input into pin ② of IC404 after passing through Q516, while the C-signals are inputs into pin ⑤ after passing through Q517. On the other hand, the VIDEO, Y/C signals entered through INPUT A, B, each goes through the RGB signal line and inputs into pin ⑧ of RL401, 402, 403. VIDEO, Y/C signals received by the switcher are similarly input into pin ⑭ of RL401, 402, 403. As previously mentioned for RGB input the switch of RL, each output goes into ⑬, ①, ③ of IC404 after passing through Q506, Q507, Q508. At this point, pins ⑨, ⑩, and ⑪ of IC404 is under the mode control shown in chart 2. VIDEO signal, Y-signal, C-signal are output from pins ⑭, ⑮, and ④ after which they are sent out through connector 5C-4B, 5B to the BA board. The RGB signals decoded by the BA board are input to connectors 8C, 9C, 10C on the BB board side where they are respectively fed through Q669, 687, 706 as well as the VIDEO/RGB SW. They are then passed through the emitter follower on Q674, 692, 711 and are output from BB-1 connector 17B, 18C, 19B, following a similar path as that for RGB inputs.

Chart 2

V. IN SEL (BB-1, 23A)	IC404 ⑨, ⑩, ⑪	IC404 Output ⑭, ⑮
H	L (VIDEO IN)	⑫, ②, ⑤
L	H (Others)	⑬, ①, ③

SYNC SECTION

External SYNC

HD, BD received by INPUT A, B are fed into connector 1A, 2A of BB−1 and are input into pins ⑭ and ⑪ of IC405. On the other hand, signals received by the switcher are input into pins ⑦ and ⑥ of BB−2. For this input and in the case of HD, the peak signal is clamped at 0.7V by D501 after being terminated by R501. After this operation, Q501 and Q502 does the switching and a 5Vp−p pulse is output from the collector of Q502. The pulse is then input into pin ⑬ of IC405. VD also goes through a similar circuit, with the pulse being output from the collector of Q504 and input into pin ⑩. The operation of IC405 is controlled according to the modes shown on chart 3 ; the pulse is output from pins ⑫ and ⑨ and are input into pins ⑬ and ⑩ of IC407.

Chart 3

SLOT SEL (BB-1、23B)	IC405 Pin ①	IC405 Output Pin ⑫, ⑨
H	H	⑬, ⑩
L	L	⑭, ⑪

On the other hand, in the case of VIDEO inputs, sync sep is handled by board BA. Subsequent to this operation the signals go to connector 4A and 5A of BB−1 and are input into pins ⑭ and ⑪ of IC407. IC407 is controlled according to the modes indicated on chart 4 whereby the outputs go from pins ⑫ and ⑨ and connector 26C and 26A of BB−1.

Chart 4

V. IN SEL (BB-1, 23A)	IC407 Pin ①	IC407 Pin ⑫, ⑨, ⑦
H	L	⑭, ⑪, ⑤
L	H	⑬, ⑩, ⑥

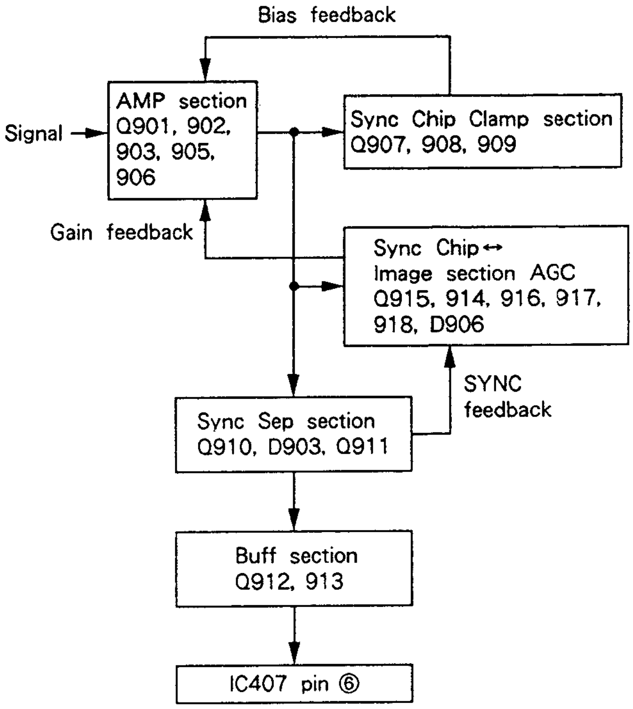
Sync on Green

Green signals from the switcher and from INPUT A and B are, as mentioned earlier, switched by RL402 and input into pin ⑦ of IC401. When the HDVS board is used instead of INPUT A and B, ternary sync pulse is received from connector 16C of BB−1. IC401 is controlled on the basis of the modes shown on Chart 5 and the output comes from pin ④. These output signals pass through C903 and are then sliced by sending them through the AGC circuit, finally sync sep OUT is output from the buffers of Q912 and Q913.

Chart 5

HD SELECT BB-122A	SLOT SELECT	IC401 Pin ④
L	−	Pin ⑦
Open	H	Pin ⑦
Open	L	Pin ②

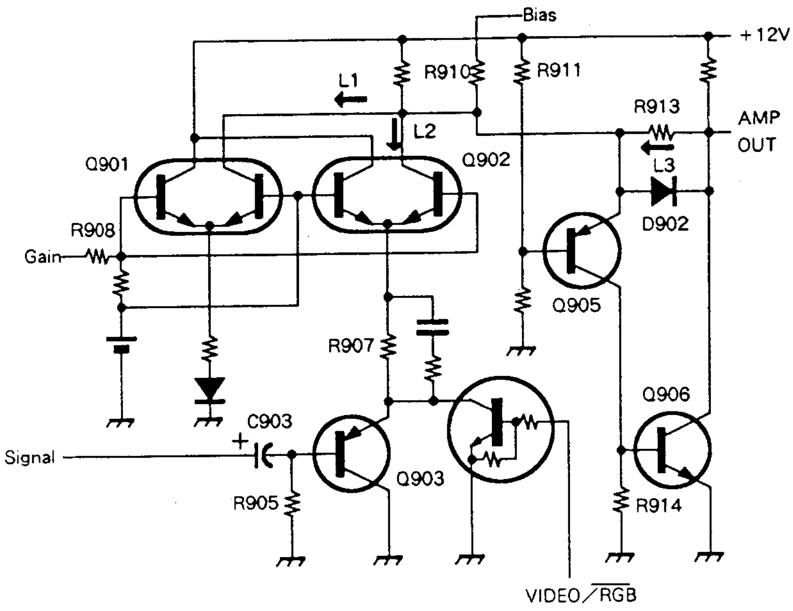
Sync on Green Sync Sep Block Diagram


Bias feedback
Signal
AMP section
Q901, 902, 903, 905, 906
Sync Chip Clamp section
Q907, 908, 909
Gain feedback
Sync Chip↔
Image section AGC
Q915, 914, 916, 917, 918, D906
SYNC feedback
Sync Sep section
Q910, D903, Q911
Buff section
Q912, 913
IC407 pin ⑥

The sync sep output is input into pin ⑥ of IC407. On the other hand, during VIDEO input, H sync is input into pin ⑤ while pin ⑦ outputs the signals converted by the mode indicated on Chart 4. The converted signals are then input into connector 25C of BB−1.

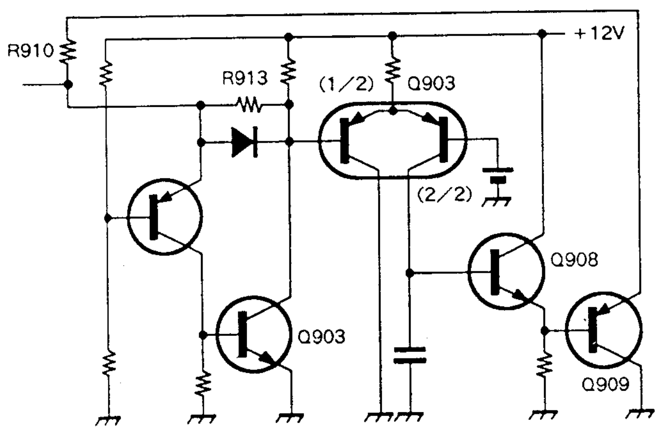
The operation of each section of the sync sep circuit is shown below.

AMP SECTION


Bias
+12V
L1
R910
R911
L2
R913
AMP OUT
L3
Q901
Q902
D902
R908
Gain
Q905
R907
Q906
C903
Signal
Q903
R905
R914
VIDEO/RGB

Signals are passed through C903 and the signals biased by R905 are converted to an electric current by Q903. This current goes from R907 and flows to emitter Q902. At this point, the signal current, adjusted by the gain control voltage while passing through R908, flows into the collector of Q902. Meanwhile, since the voltage of collector Q902 is fixed at the base electric potential of Q905 $+V_{BE}$, return voltage flows from R913 so that this electric potential remains unchanged. A reverse waveform appears on collector Q906. Therefore, the maximum gain can be expressed as (R913) /R907. Also note that D902 is a limiter for instances when the electric potential of collector Q906 becomes lower than the base electric potential of Q905.

BIAS SECTION


R910
+12V
R913
(1/2)
Q903
(2/2)
Q908
Q903
Q909

Signal appearing on collector Q903 goes into the base of Q907 (1/2) and is compared against the base voltage of Q907 (2/2) (the voltage determined by R918, 921, 928, 933 and 934). As shown in Fig. 1, for example, if the base electric potential of Q907 (2/2) existed on the waveform's sync section electric potential, Q907 (2/2) of only the sync section is turned ON and the Q908 base electric potential increases, resulting in an increase of the base of Q909. As a result, the DC current that flows from R910 to Q909 decreases and the electric potential of collector Q903 decreases as well. Finally, R910 releases electric current so that the highest point of the base electric potential of Q907 (1/2) and the base electric potential of Q907 (2/2) are the same.

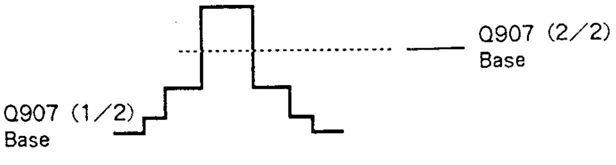
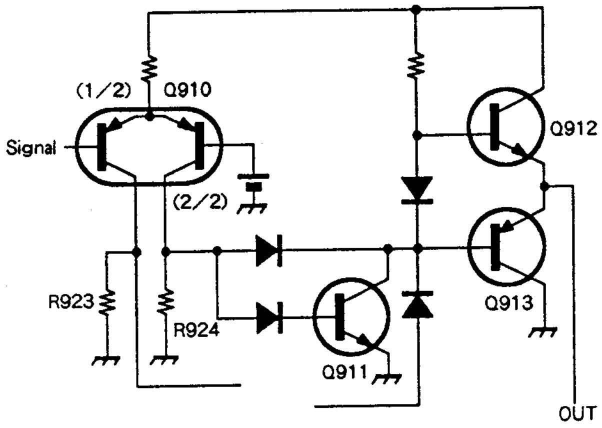

Q907 (2/2)
Base
Q907 (1/2)
Base

Fig. 1

SYNC SEP SECTION


(1/2)
Q910
Signal
(2/2)
Q912
R923
R924
Q913
Q911
OUT

The signal generated by the AMP section (described earlier) is input into Q910 (1/2) and the DC voltage as determined by R918, 921, 928, 933 and 934 is input into Q910 (2/2). The relationship in voltage between the two is demonstrated in Fig. 2 where it can be seen that Q910 (2/2) is turned ON only starting from the Sync section. Other sections become Low. This pulse is switched by Q911 and is extracted as 5V negative composite sync.

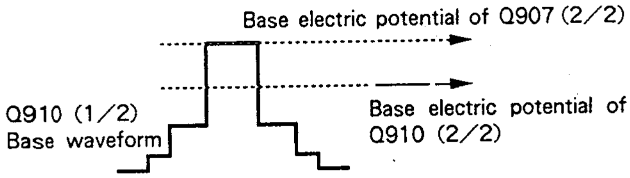
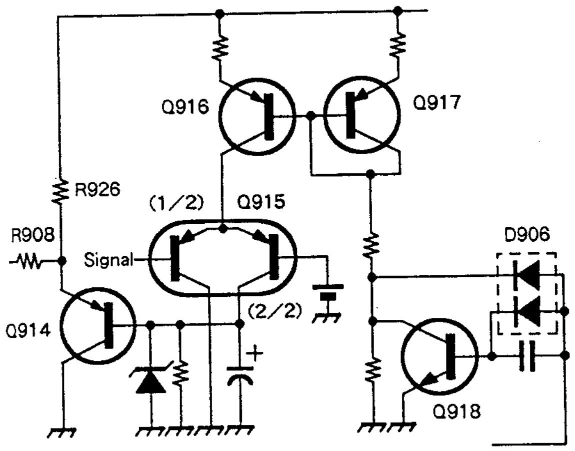

Base electric potential of Q907 (2/2)
Q910 (1/2)
Base waveform
Base electric potential of
Q910 (2/2)

Fig. 2

GAIN CONTROL SECTION


Q916
Q917
R926
(1/2)
Q915
R908
Signal
D906
Q914
(2/2)
+
Q918

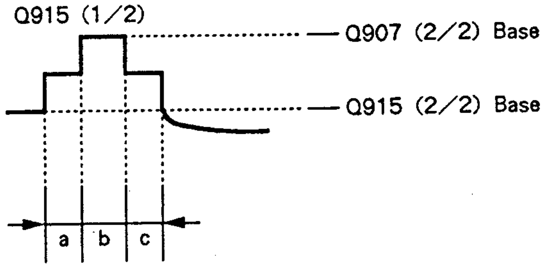
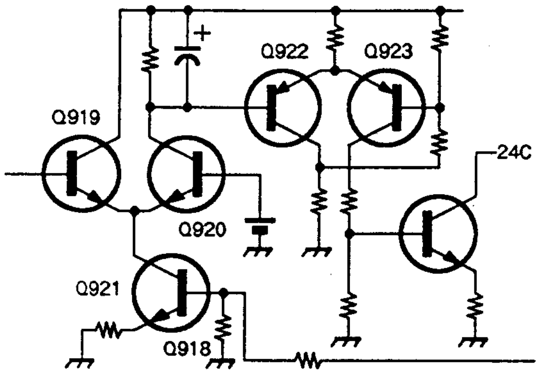

Q915 (1/2)
Q907 (2/2) Base
Q915 (2/2) Base
a
b
c

Fig. 3

The output from AMP is input into the base of Q915 (1/2) while the electric potential as determined by R918, R921, 929, 933 and 933 is fed into R915 (2/2). This means that the one with the lower base voltage is turned ON. On the other hand, sync sep out (negative polarity) that appears on collector terminal Q910 (1/2) is input into Q918. This is turned ON only during the time the sync section is operating. Subsequently, current flows into Q917, and the same current flows into Q916. As a result, supposing that a waveform similar to that shown in Fig. 3 is input, Q915 (2/2) is turned ON during a and c, the electric potential of collector Q915 (2/2) as well as that if emitter Q914 increases. When this occurs, as described earlier in the AMP section, the electric potential of the gain control terminal increases, making the AMP's gain increase. It is through this type of operation that the difference in electric potential between the pedestal section and the sync CHIP section becomes the base electric potential variance between Q907 (2/2) and Q915 (2/2).

Ternary Sync Discriminating Circuit



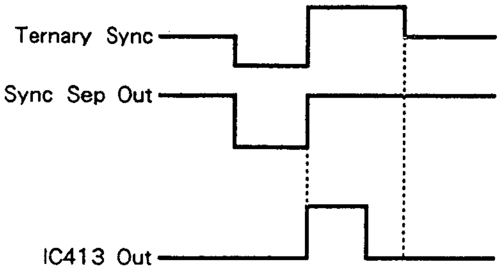


Fig. 4

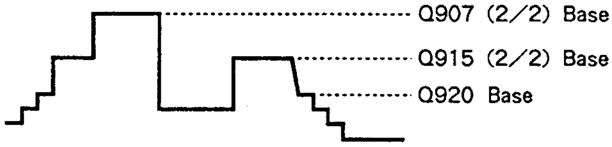


Fig. 5

AGC and clamped signals produced by the previously mentioned sync sep circuit are input into the base of Q910 while the DC voltage shown in Fig. 5 is added to Q920. Furthermore, Q921 is connected to the emitters of Q919, and Q920, and the pulse shown in Fig. 4 is entered into their bases, making the system ON only when the voltage is higher than the pedestal's ternary sync voltage. As a result, whenever ternary sync is input, Q920 turns ON only when the voltage is higher than the pedestal's and the electric potential of collector Q920 falls. This is recharged by C911 and transmitted to the base of Q922. Q922 and Q923 are schmitt trigger circuits whereby when the base electric potential of Q922 falls, Q923 becomes OFF, lowering the collector electric potential and turning Q924 OFF.

AUDIO SECTION

The signals connected to the switcher (R, L, MIX) are input into pin ② of IC408, 409 via pin ① of connector BB−2. In addition, the R and L signals input into INPUT A and B are fed into 13A and 14A of connector BB−1 and enters pin ⑫ of IC408. IC408 and 409 are controlled by the mode shown in diagram 6 and output through pin ⑭. The R, L signal is then input into pins ⑥, ④ of IC412, increased or reduced according to the changes in the VOL control terminal voltage of pins ② and ⑧, and output from pins ⑦, ③ as well as from 3C, 3B of connector BB−1.

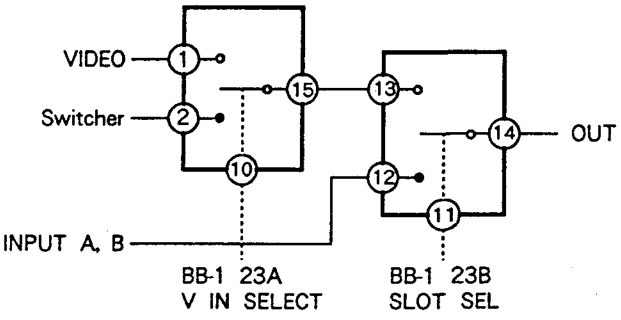


Fig. 6

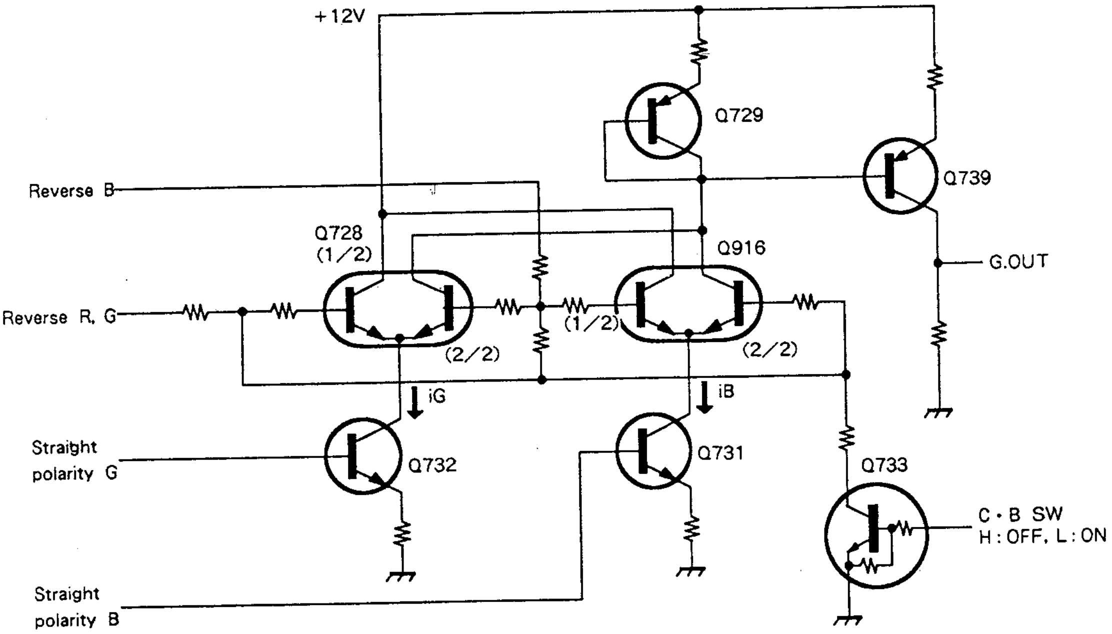
SIRCS SIGNAL

Signal received by the optical receptor of this unit goes into 1C of connector BB−1, the signal from the attached remote control unit to 1B of connector BB−1, and the signal from the switcher are input into pin ② of BB−2 respectively. Signal received at the optical receptor unit takes the following pass : Q450, 451 to SW included in the SIRCS IN terminal, to D450, to Q454 and finally to 23C of connector BB−1. In addition, it is also sent to SIRCS OUT via Q456. At this point, the included SW turns OFF when a terminal is inserted into SIRCS IN, and ON when removed. Therefore, when the terminal is plug the WIRELESS input on the main unit is disabled. Instead, the plug WIRED input signal is sent to D450. On the other hand, the signal from the main unit's remote controller goes into D450 after which it follows the same path. Furthermore, signal from switcher is sent to Q453 and after that is the same.

CLEAR BLUE CIRCUIT

The clamped R (red) signal appears in reverse waveform at collector Q667. This is sent to Q668 and the G (green) signal is similarly sent to Q727. As result, the signal that appears on emitter Q668 and 727 is a signal with low base electric potential (signal with a higher image level). This is sent to the base of Q728 (1/2) and 730 (2/2) via Q728. On the other hand, B (blue) signal appears in reverse waveform on collector Q737 and is sent to Q736 after which it is sent to the bases of Q728 (2/2) and 730 (1/2) via R740 and 743. At this point, for R and G signals the DC level is determined by the power supply from Q734 when it is reversed. While the DC level for B signal is determined by the power supply from Q735. Furthermore, the emitter of Q728 is connected to collector Q732 and the G signal current flows as result of the G signal input into the base. Likewise, the emitter of Q730 is connected to the collector of Q731 and the B signal current flows as result of the B signal input into the base. First of all, when the C. B SW is in the OFF position Q733 turns ON and the base electric potential of Q728 (1/2) and 730 (2/2) becomes low. ↗

As result, Q728 (1/2) and Q730 (2/2) turns OFF ; Q728 (2/2) and Q730 (1/2) turn ON ; a reverse waveform of G signal appears on collector Q729 after which it is reversed by Q739 and input into Q688. When C.B SW is ON, the base electric potential of Q728 (1/2) and Q730 (2/2) are compared against the base electric potential of Q728 (2/2) and Q730 (1/2). The transistor with higher base electric potential is turned ON. As result, if the signal level of B signal and R, G signal is compared and if the B signal level is higher Q730 (2/2) and Q728 (1/2) are turned ON and a MIX signal of B signal and G signal is output to collector Q729. In case, the B signal level is lower than the signal level of R,G, Q730 (1/2) and Q728 (2/2) turn ON and only the G signal is output to collector Q729. As shown above, CB operation produces G signal to B signal and turns blue to cyan.



TEST SIGNAL GENERATOR

When the test signal mode is selected, 27C of connector BB−1 becomes low and collector Q656 becomes high. It then passes through D652, 653 and turns Q671, 672 ON when R, Q689, 690 when G and Q708, 709 when B and turns OFF the RGB and VIDEO signals. On the other hand, test signal are input into each RGB signal via Q675, Q693 and Q712.

Signal (hatched, dotted, and other test signal) Generator Section.

ECL signals are input into 28A, 28B of connector BB−1 and the respective signals are input into Q660, 661. The lighting portion of the test signal turns the Q660 side High and Q661 Low. As result, Q660 and Q665 becomes ON and electric current flows into collector Q654 through a current mirror circuit. Then a voltage is generated by R659, R663, and R655 (described later) and is input into Q652. This signal is added to each of the RGB circuits.

C. BRT Signal (signal that increases or lowers brightness of the image during ZONE MODE) Generator Section.

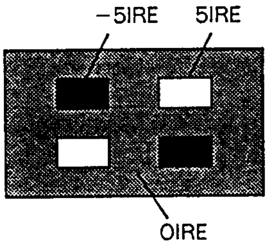
ECL signals are input into 28C, 29C of connector BB−1 and are respectively input into Q663 and Q665. For normal test signals, the base of Q663 becomes Low and since Q665 is already High, Q663 turns ON and current flows through Q664 and Q662. On the other hand, under the ZONE MODE, excluding the area which is to emphasized, the base of Q663 turns High and Q665 becomes Low, making Q663 and Q662 both OFF. As a result, the current that flows through Q660 as well as Q654 decreases, causing the base electric potential of Q652 to fall and the brightness to decrease.

BOARDER Signal (the shadowed portion of the character signal) Generator.

ECL signals are input into 29A, 29B of connector BB−1 and the respective signals are input into the base of Q658, 659. When the mode changes to character signal output mode, the character signal plus the shadow portions turn the base of Q658 High, the base of Q659 Low and Q658 becomes ON. Consequently, the base electric potential of Q657 becomes negative (−) and these are transmitted to the bases of Q676, 794, 713 and Q677, 695, 714 turn ON. For this reason, the RGB signals are cut−off by this section and shadow is formed.

PLUGE SIGNAL GENERATOR

Pluge signal is a signal like that shown on the diagram on the left. Signal is input from 27A, 27B of connector BB−1 and respectively input into the bases of Q650, 651. For regular TEST signals, 27A is set to High and 27B is set to Low and the transistor on the opposite side of Q650 signal input side turns ON. Electric current then close to R655 and is transmitted to the base of Q652. For this reason, regular TEST signals will have the MIX signal from Q650 and Q654 added to the base of Q652. In the case of pluge mode for the −5IRE section on the diagram, 27A, 27B both turns Low and since no current flows to R655 the electric potential of Q652 falls. For the 5IRE section, 27A, 27B become High and current flows to R655 from both Q655 and 651 causing the electric potential of Q652 to fall. As result, Pluge signal is generated.



CHARACTER SIGNAL GENERATOR

Each of the RGB character signal are input as ECL signals into 30A, 30B, 31A, 31B, 30C, 31C of connector BB−1. Since the circuit is the same for R, G, and B, the circuit for R only will be explained. Signals input from 30A, 30B are respectively input into the bases Q680, 681. Under normal circumstances, 30A is Low and 30B is High and Q681 is turned ON. Therefore, the base electric potential of Q679 is split by parallel resistance between R703, 961, and R704, 711 and is lower than the electric potential of Q678, causing the input signal to pass through Q678 unchanged and input into Q682. On the other hand, in character mode, the character portion only will have 30A High and 30B Low. Q681 is turned OFF and the base electric potential of Q679 increases. At this point, Q679 turns ON resulting in the input signal and the character signal to be output alternately and input into Q682.

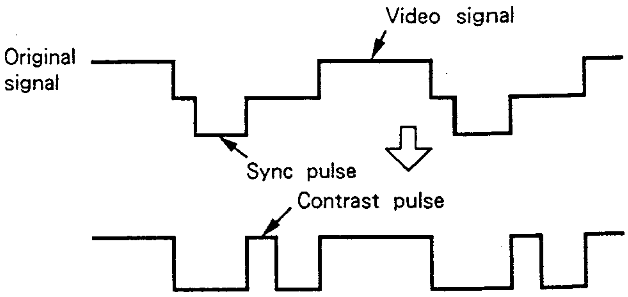
CA (RG) and CA (B) Boards

- **STRUCTURE**

The CA (RG) board consists of signal processors for RED and GREEN CH.(BKG, DRV, Contrast, and Brightness controls plus cut off SW, blanking system, and pedestal clamp), video output amplifier, final−stage clamp circuit, automatic background circuit, peak ABL, and single−tube ABL circuit. Note that a gamma correction circuit accompanies the RED CH. The CA (B) board includes these functions for the BLUE CH. : signal processing (same features as for CA (RG) board), gamma correction circuit, video output amplifier, final−stage clamp circuit, automatic background circuit ABL circuit, and G1 blanking circuit.

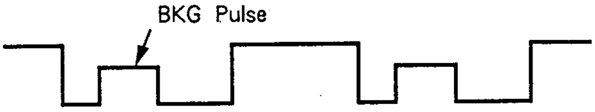
- **SIGNAL PROCESSING**

BKG, DRV, Contrast, and Brightness control ; cutoff SW ; blanking and pedestal clamp signal processing are managed by IC104 (RED CH), IC204 (GREEN CH), and IC304 (BLUE CH). Signals input into pin ㉖ through AC merging are first clamped by a back port and a reference pulse (contrast pulse) for gain control (see diagram below) are inserted.

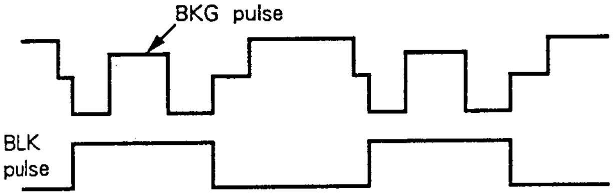


The pulses are then sent through a gain control amplifier (DC control) after which a feedback is applied so that the control pulse becomes as large as a certain reference value. This circuitry enables contrast to be controlled by simultaneously inserting various levels of control pulses while DRV can be controlled by changing the reference value against which the contrast pulse is compared. This circuit design brings about excellent inter-channel tracking performance.

When these processes are completed, instead of the contrast pulse, reference pulses for Brightness and Background control (BKG Pulse) are inserted. Brightness and Background control is carried out by changing the level of this BKG pulse.



As shown in the diagram below, with the exception of the BKG pulse section, blanking is applied by the blanking pulse input from pin ⑤ and the pulse is output from pin ③.



- **VIDEO OUTPUT AMPLIFIER**

This amplifier makes use of hybrid IC VPH05 (IC101, 201, 301) and is comprised of a cascode amplifier and a complimentary buffer. Note that a peaking terminal is provided in pin ③.

- **FINAL-STAGE CLAMP CIRCUIT**

This circuit uses a hybrid IC SNY-8C02 (IC103, 203, 303). As the BKG pulse sector is clamped here, the pedestal level can be adjusted by changing the size of the BKG pulse.

- **AUTOMATIC BACKGROUND CIRCUIT**

(Only the RED CH is explained here, but the explanation is applicable to other CH as well.)

The Ik that is detected by a cathode electric current detecting circuit (comprised of Q104, 105, 106, 107, 112) is converted to voltage and is sent through the voltage follower of IC102 (2/2). The voltage is then S/H'd by Q111 and C119 and the clamp voltage is modified by the previously-mentioned final-stage clamp circuit so that the voltage becomes the same as the reference value.

- **SINGLE TUBE ABL CIRCUIT**

The electric current detected by cathode electric current detecting circuits Q103 (RED), Q203 (GREEN), and Q303 (BLUE) are converted to voltages and respectively integrated. Q16, 17 and 18 determine which RGB voltage is the largest and this voltage is passed through the reverse phase amp IC8 (2/2). If the voltage is greater than the standard value, Q15 acts to lower the contrast.

- **PEAK ABL CIRCUIT**

Each electric current that is derived from the above RGB cathode electric current detecting circuits is added by IC8 (1/2) and the contrast is lowered by Q14 if greater than the standard value.

- **Σ ABL CIRCUIT**

The ABL voltage detected by the secondary side of the flyback transformer goes into the base of Q30 and is compared against the base voltage of Q31. When the flyback current becomes greater than the standard value, the contrast is lowered.

- **G1 BLANKING CIRCUIT**

The TTL level BLK pulse is amplified to approximately 112Vp-p by circuits Q32 to Q40. They are then supplied to G1 of each of the R.G.B. channels.

3-3. Circuit Board DA

The functions of board DA can be divided into the following :

1. AFC Circuit System
2. Waveform Generation
3. Others

1. AFC CIRCUIT SYSTEM

(1) H. SHIFT···AFC achieves synchronization by comparing H. SYNC and HD (Horizontal deflection). When pulse hd is created from HD by shifting a certain phase (r), and if the AFC is then taken with H. SYNC and hd, the AFC of HD will be shifted by −r. Therefore, changing r results in a H. SHIFT.

In practice, the horizontal deflection HD is feed back to connector 7−b after which it passes through buff Q1 and enters IC8, the H. SHIFT circuit. The noise content is removed by SW of IC8 and a pulse is produced by IC9 (1/2) using its leading edge as a trigger. Since the integrated value of output ⑦ of IC9 and Vcc/2 is compared by IC10 (1/2) and feed back, the second diagram of Fig. 1 becomes a short waveform with a 50% duty factor. This output is once again input into IC9 (2/2) and sent through a similar feed back system. If the phase is controlled using the H. SHIFT voltage (−2.5V to +2.5V) from connector 27−b rather than the comparing voltage Vcc/2, a movement of ±22% is observed as shown in the third diagram in Fig. 1. By entering this into IC13 and by creating a rectangular waveform with a 50% duty factor, a pseudo HD pulse for AFC use is realized.

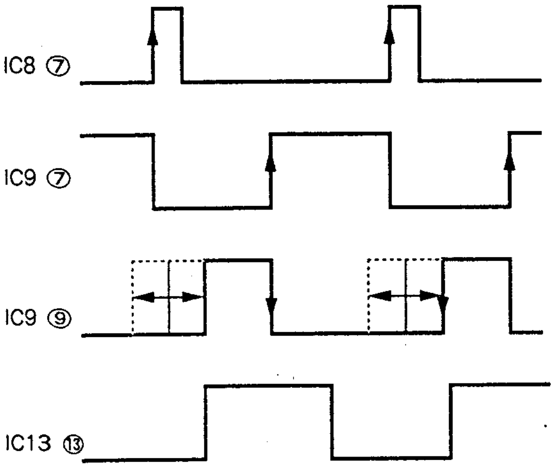


Fig. 1

(2) V. SHIFT···V. SHIFT uses the same method as V. SHIFT to shift the phase of incoming V. SYNC. The circuit is almost the same as that of H. SHIFT. The V. SYNC of connector 9−a is delayed by about 1V with IC11, 12 and the phase shift is accomplished with the V.SHIFT control voltage of connector 27−c.

(3) AFC CIRCUIT···IC14 is a hybrid IC that includes a jungle IC and is responsible for AFC and V. HOLD. In terms of its operation, when H. SYNC is fed into pin ⑧ it does a F−V conversion and outputs a H. OSC waveform from pin ⑨ which corresponds to the frequency's fo. RV1 is used to adjust fo.

For VIDEO operation, pin ① of IC8 becomes "Low", Q27 goes off, and the voltage that is decided by resister division of RV3, R163, 164 is input into pin ⑤. This becomes the fo voltage for VIDEO use.

(4) V. HOLD CIRCUIT···The V. SYNC OUT described in "(2) V. SHIFT CIRCUIT" is fed from Q14 to pin ⑪ of IC14. A F−V conversion is done inside IC14 based on this pulse and VD of fo corresponding to the input frequency is output from pin ⑫ of IC14.

2. REGISTRATION WAVEFORM GENERATOR

(1) REGISTRATION IC SECTION···When VD is input into pin ⑤ of IC201 and HD is input into pin ㉔, registration waveform is created using the leading edge of the input signal as trigger (FIG. 2-1, 2-2). The peak of V. SAW, H.SAW is determined by the voltage of pin ㉗ and ㉕ respectively. Since a parabola wave is SAW × SAW, when the SAW amplitude becomes 1/2 it becomes 1/4. Other waveforms will become 1/4, 1/8 and so forth depending on how many times a multiplication is performed. Pin ③ and pin ④ outputs a rectangular waveform of 1/2H, 1/2V respectively. ↗

(2) V. SIN WAVEFORM···When a full wave rectification is performed with IC208 using the waveform of pin ⑩ of IC201, the waveform of pin ① of IC208 will be like that shown in Fig. 3-a. The parabola wave of pin ⑪ of IC201 is DC-shifted to make the output of pin ① of IC209 as shown in Fig. 3-b. Q205 to 212 comprise a multiplier and when Fig. 3-a and 3-b are entered into this multiplier, a waveform similar to the one shown in Fig. 3-c is produced. This will be divided by IC210 to make the first half of V-scan into V. SIN 1 and the latter half into V. SIN 2.

(3) H. SIN WAVEFORM···As with V. SIN waveform H. SAW will be full-wave rectified using IC217 while H. PARA will be DC-shifted with IC215. Each of these are multiply by Q213 to 220 to create waveforms similar to V. SIN.

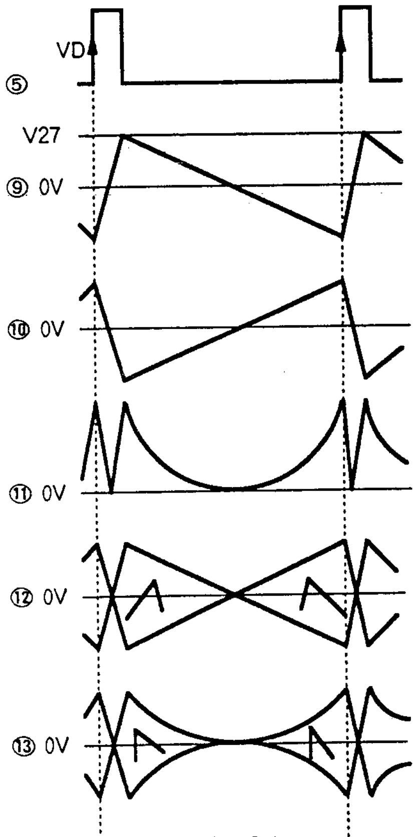


Fig. 2-1.

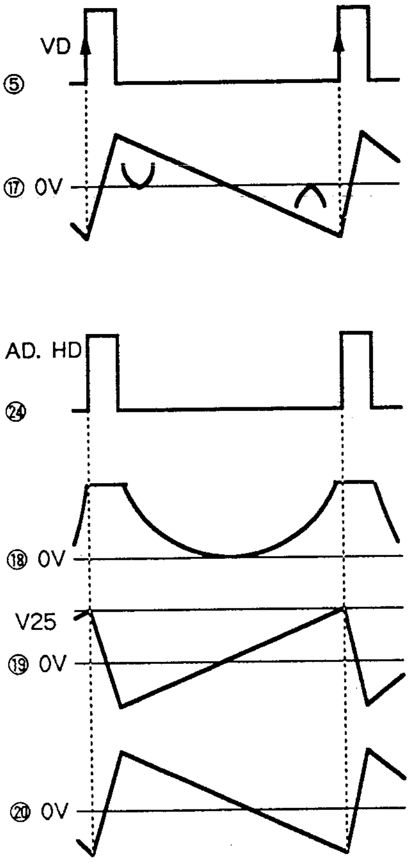


Fig. 2-2.

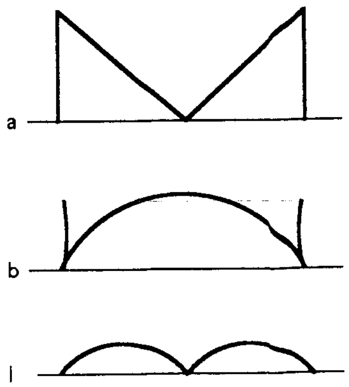


Fig. 3.

3. OTHERS

(1) AD. HD··· Registration correction is affected by eddycurrent. To rectify this problem regeneration waveforms are created by advancing the waveform by 1 to 2 μs. The horizontal deflection of HD is input into pin ④ of IC3. A constant that will become approximately 3 to 4 μs will be used and integrated (IC3 ⑥). Next the horizontal deflection of HD is input into pin ⑪ of IC3 and a pulse created using the leading edge as trigger. This Q output will be integrated and the result of previous integration will be compared against IC4. Since a feedback is applied, the pulse width of pin ⑥ and ⑨ of IC3 will be the same. As a result, the pulse width of pin ⑨ of IC3 will become 3 to 4 μs. Because the original HD (pin ⑪ of IC3) is about 2 μs, the net effect on the pulse of pin ⑨ of IC3 will be an advancement of 1 to 2 μs. This will be input into IC201 to create a horizontal regeneration correction waveform.

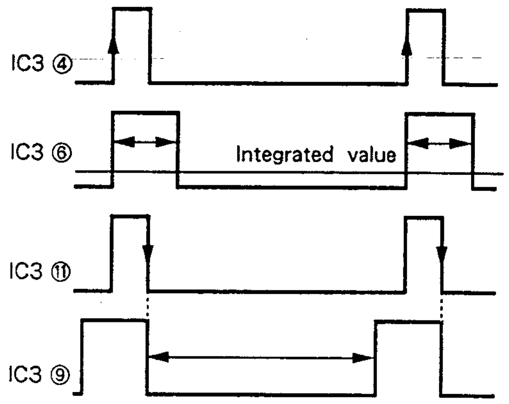


Fig. 4

(2) BLK PULSE

1) V. BLK···The position of BLK has been fixed so that even if the size is altered, the on-screen position of BLK will not change. By performing slice and comparing operations on a certain level of V. SAW, a pulse such as BLK 1 that is shown in Fig. 5 is created (IC220). If the bias of BLK (T) in Fig. 5 is changed, the width of BLK 1 alters. V. BLK is structured by adding a retrace line, as well as VD and V. Pulse so that BLK is effected during a H. STOP.

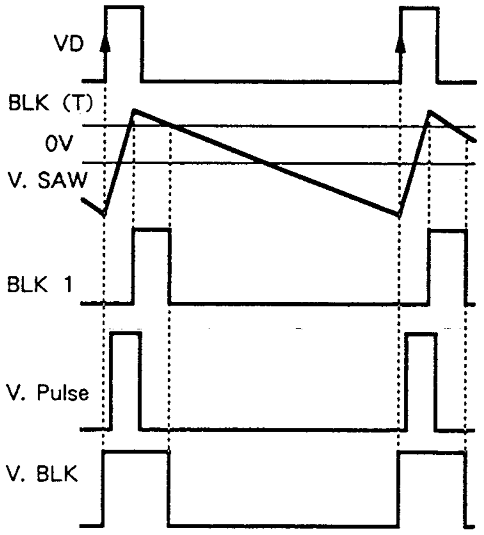


Fig. 5

2) H. BLK···Although similar to V. BLK in principle, since H. SAW is created with AD. HD, if the pulse created by slicing H. SAW with H. BLK (R) and if HD is added to create H. BLK, the phase of the two BLK pulses will not align as shown in Fig. 6, H. BLK 1. For this reason, H. BLK will be created by padding HD.
A pulse is created by shifting the voltage level of connector 25−c and shifting H. SAW (Fig. 7 H. BLK 2). Voltage a will be defined to be the voltage resulting from integration. BLK (R) is created as follows. First add HD to pin ⑪ of IC5 and create a pulse using the leading edge as a trigger. Then take the integrated value of output $\overline{Q}$ (pin ⑨ of IC5), compare it against a in the foregoing, and apply a feedback until the same integration value is obtain. BLK (L) is created in the same manner.

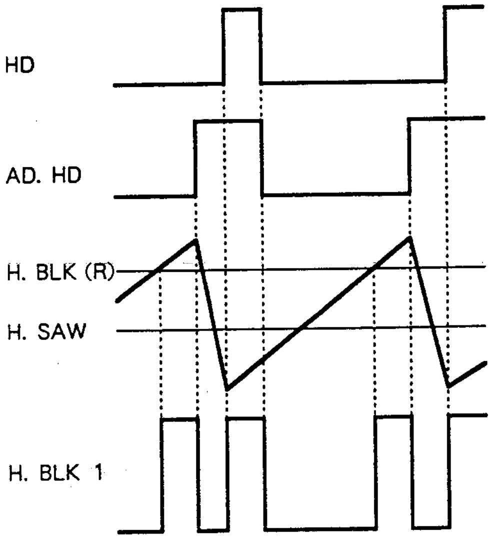


Fig. 6

3) C. BLK···Feed BLK pulses V. BLK (1) and H. BLK (2) through the decoder circuit. C. BLK will be output from pin ⑮ (OUT). Pin ⑮ is an OR output which becomes Low only when pins ①, ②, ③, and ⑥ are also Low.

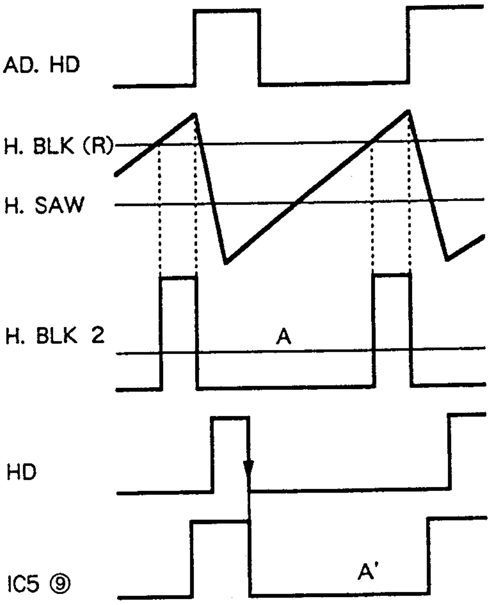


Fig. 7

(3) SIZE ABL CIRCUIT···Since ABL circuit is a total high −voltage limiter, when its size is halved, the current density per unit area is doubled. This can become the cause for partial burning of the tube surface and cracking of the CRT due to heat concentration. This set has a particularly wide size range, the current density can become several times larger. For this reason, a SIZE ABL circuit, which keeps the current density per unit area fixed, was added. Control voltage H. SIZE and V. SIZE are multiplied and the result added to the ABL detection point, as shown in Fig. 8. As a result, the detecting voltage is changed. The ABL is therefore being changed through the use of SIZE.

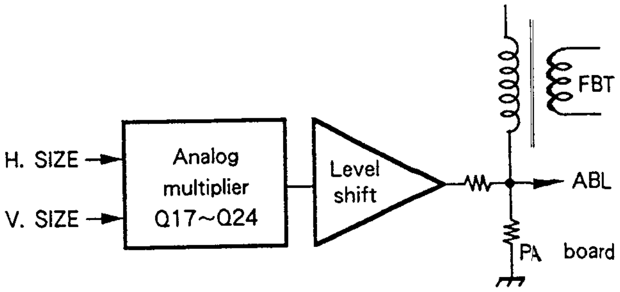


Fig. 8

3-4. Circuit Board DB

This board incorporates functions of conventional regenerator matrix VR as well as those of various other control VRs. The features of D/A converter MB86023 are as follows :

Pins ① to ⑧	... DATA input (standard input)
Pins ⑨ and ⑩	... control terminal that selects 1 of 4 possible outputs
Pin ⑪	... reads DATA upon receipt of a pulse
Pin ⑫	... activated when low
Pin ⑬	... digital GND
Pin ⑭	... analog GND
Pin ⑮	... −5V
Pins ⑯ to ⑲	... output
Pin ⑳	... input for reference voltage
Pin ㉒	... +5V

The voltage produced in reference to input voltages V1 is 7−V1 for DATA 00, 0 for DATA 80, and V1 for DATA FF. IC501 to 504 are buffers while IC505 to 510 are address decoders. The output and the name associated with each signal are shown below :

IC511 ⑲ H. SIZE
⑱ H. CENT (G) 1
⑰ H. CENT (R) 1
⑯ H. CENT (B) 1

IC512 ⑲ H. SHIFT
⑱ H. CENT (G) 2
⑰ H. CENT (R) 2
⑯ H. CENT (B) 2

IC513 ⑲ H. KEYS
⑱ H. SKEW (G)
⑰ H. SKEW (R)
⑯ H. SKEW (B)

IC514 ⑲ H. PIN
⑱ H. BOW (G)
⑰ H. BOW (R)
⑯ H. BOW (B)

IC515 ⑲ ————
⑱ H. SIZE (G)
⑰ H. SIZE (R)
⑯ H. SIZE (B)

IC516 ⑲ H. LIN BIAS
⑱ H. LIN (G)
⑰ H. LIN (R)
⑯ H. LIN (B)

IC517 ⑲ V. KEYS BIAS (B)
⑱ ————
⑰ H. KEYS (R)
⑯ H. KEYS (B)

IC518 ⑲ ————
⑱ ————
⑰ H. PIN (R)
⑯ H. PIN (B)

IC519 ⑲ V. SIZE
⑱ V. CENT (G) 1
⑰ V. CENT (R) 1
⑯ V. CENT (B) 1

IC520 ⑲ V. SHIFT
⑱ V. CENT (G) 2
⑰ V. CENT (R) 2
⑯ V. CENT (B) 2

IC521 ⑲ V. SIZE BIAS
⑱ V. SIZE (G)
⑰ V. SIZE (R)
⑯ V. SIZE (B)

IC522 ⑲ V. LIN BIAS
⑱ V. LIN (G)
⑰ V. LIN (R)
⑯ V. LIN (B)

IC523 ⑲ ————
⑱ V. SKEW (G)
⑰ V. SKEW (R)
⑯ V. SKEW (B)

IC524 ⑲ ————
⑱ V. BOW (G)
⑰ V. BOW (R)
⑯ V. BOW (B)

IC525 ⑲ V. KEYS BIAS (R)
⑱ V. KEYS (G)
⑰ V. KEYS (R)
⑯ V. KEYS (B)

IC526 ⑲ ————
⑱ V. PIN (G)
⑰ V. PIN (R)
⑯ V. PIN (B)

IC527 ⑲ ————
⑱ H. ZONE 2 (G)
⑰ H. ZONE 2 (R)
⑯ H. ZONE 2 (B)

IC528 ⑲ ————
⑱ H. ZONE 3 (G)
⑰ H. ZONE 3 (R)
⑯ H. ZONE 3 (B)

IC529 ⑲ H. ZONE 4 BIAS
⑱ H. ZONE 4 (G)
⑰ H. ZONE 4 (R)
⑯ H. ZONE 4 (B)

IC530 ⑲ H. ZONE 5 BIAS
⑱ H. ZONE 5 (G)
⑰ H. ZONE 5 (R)
⑯ H. ZONE 5 (B)

IC531 ⑲ ————
⑱ H. ZONE 6 (G)
⑰ H. ZONE 6 (R)
⑯ H. ZONE 6 (B)

IC532 ⑱ H. ZONE 7 (G)
⑰ H. ZONE 7 (R)
⑯ H. ZONE 7 (B)

IC533 ⑱ H. ZONE 8 (G)
⑰ H. ZONE 8 (R)
⑯ H. ZONE 8 (B)

IC534 ⑱ H. ZONE 9 (G)
⑰ H. ZONE 9 (R)
⑯ H. ZONE 9 (B)

IC535 ⑱ V. ZONE 2 (G)
⑰ V. ZONE 2 (R)
⑯ V. ZONE 2 (B)

IC536 ⑱ V. ZONE 3 (G)
⑰ V. ZONE 3 (R)
⑯ V. ZONE 3 (B)

IC537 ⑱ V. ZONE 4 (G)
⑰ V. ZONE 4 (R)
⑯ V. ZONE 4 (B)

IC538 ⑱ V. ZONE 5 (G)
⑰ V. ZONE 5 (R)
⑯ V. ZONE 5 (B)

IC539 ⑱ V. ZONE 6 (G)
⑰ V. ZONE 6 (R)
⑯ V. ZONE 6 (B)

IC540 ⑱ V. ZONE 7 (G)
⑰ V. ZONE 7 (R)
⑯ V. ZONE 7 (B)

IC541 ⑲ ————
⑱ V. ZONE 8 (G)
⑰ V. ZONE 8 (R)
⑯ V. ZONE 8 (B)

IC542 ⑲ ————
⑱ V. ZONE 9 (G)
⑰ V. ZONE 9 (R)
⑯ V. ZONE 9 (B)

IC543 ⑲ SHARPNESS
⑱ COLOR
⑰ HUE
⑯ VOLUME

IC544 ⑲ DRIVE (G)
⑱ DRIVE (R)
⑰ DRIVE (B)
⑯ CONTRAST

IC545 ⑲ BACK GROUND (G)
⑱ BACK GROUND (R)
⑰ BACK GROUND (B)
⑯ BRIGHT

IC546 ⑲ BLANKING (T)
⑱ BLANKING (B)
⑰ BLANKING (L)
⑯ BLANKING (R)

3-5. Circuit Board DC

The Dc board consists of : (1) V. OUT circuitry, and (2) SUB. OUT circuitry. Both circuits are common for R, G, and B.

1. V. OUT CIRCUITRY

1) V. OUT···consists of uPC4558 and uPC1498. As it is common to all 3 channels, here the G−ch will be explained. V. OUT waveform is input into pin ③ of connector DC−2 from the DB board.(Fig. 1 A). Although this is input into pin ③ of IC5, since pin ② of IC5 is a GND, a waveform similar to the one shown in Fig. 1 B is feed back and pin ③ of IC5 becomes a GND. Any voltage error that exists between pins ② and ③ of IC5 will be output from pin ① of IC5 (Fig. 1 C) and is received by pin ④ of IC6. The output is through pin ② and a electric current like the one shown in Fig. 2 B flows. As a result a voltage waveform similar to Fig. 1 D is generated. Fig. 1 E is the pulse power supply, and is created by uPC1498 which detects the erroneous portion of the pulse of the input waveform (C) and by accumulating D5 and C10.

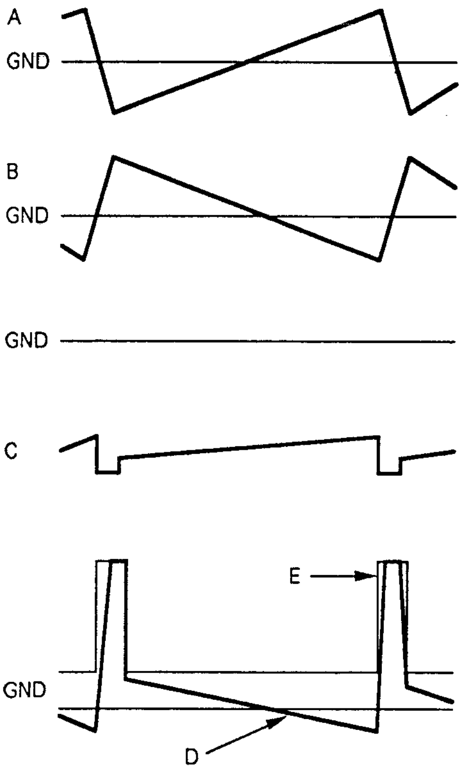


Fig. 1

2) V. STOP PROT.···Slice the pulse at the output (pin ② of IC6) V. OUT. If C14 does not exist, the waveform of collector Q2 will be a pulse waveform such as in Fig. 2 A, practically−speaking, it will be integrated by C14 and become a saw wave like the one in Fig. 2 B. If an abnormality is encountered in V. deflection, as shown in Fig. 1 D, the pulse voltage will disappear and the Q2 collector will attach to +B. When this happens, C14 gradually gets charged as shown by the dotted points in Fig. 2 B and exceeds the pin ⑥ IC5 which is the comparing voltage, causing pin ⑦ of IC5 to become High, Q4 to turn ON, and Q5 to turn OFF. This is the V. STOP mode.

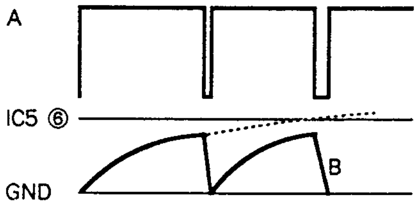


Fig. 2

3) V. PULSE···To output V. PULSE for V. BLK use, slice the V. OUT pulse with IC9 and feed it through D10 and Q6. Note that V. STOP signal is added at D9 so that a BLK is applied during V. STOP.

2. SUB OUT CIRCUITRY

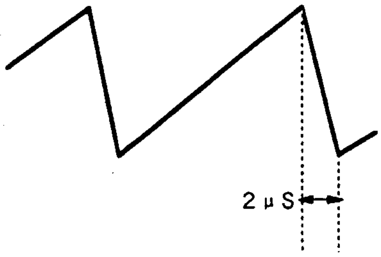
1) SUB OUT···Since all of the 6 channels (R, G, B, H.SUB, V, SUB) uses the same circuit, we will explain about H. SUB (R) in this section. The waveform input int pin ① of connector DC−3 will be amplitude−adjusted by IC101. C301 is a reverse adjustment circuit provided as protection against current overloads. Pin ② of IC301 is the input while pin ③ is the return. Pin ⑥ is the out for the voltage error between input and output. As frequency performance is important, the gain for operational amplifire will be kept low and a discrete AMP used. For the discrete AMP section also, we have used an active load rather than a negative load. This constant−current circuit is comprised of D302, Q301, and R318, and has a current flow of 18mA.

2) PULSE POWER SOURCE···The current required to produce a correcting waveform with a retrace of 2 μs and H. SAW waveform with 1.5Ap−p will be −30V, as the following shows :

$$V=-L\frac{di}{dt}=-40\ (\mu H)\frac{1.5\ (A)}{2\ (\mu S)}=-30V$$

For this reason, PULSE power supply is used only for return lines.

AD. HD is added to pin ① of connector DC−13, and the + side PULSE created at Q105 and the − side PULSE at Q108. The PULSE power supply is produced by adding ±15V to each of these PULSES.



3) CURRENT LIMITER···This is a limiter circuit for negative overloads on ±15V lines. The +15V side is made up of Q9, R64, and 76. When current flows through the base−emitter resistance and exceeds the transistor's V_{BE}, Q9 is turned ON and is added to V. STOP PROT. The limiter current is approximately 4A.
Same for the −15V side.

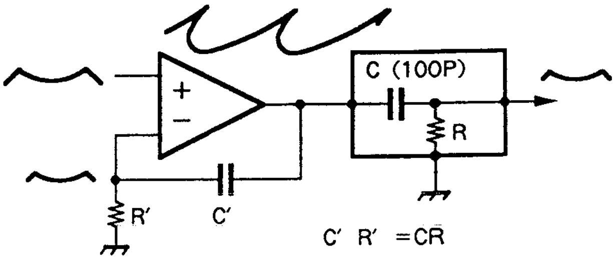
3-6. Circuit Board K

1. DYNAMIC FOCUS CIRCUIT

1) H Dynamic Focus
H parabola waveform input into Pin ⑦ of Connector K−1 is phased−reversed at 1/2 of IC201 (uPC184C) and further amplified by a non−reversible AMP consisting of drivers Q201 and Q202. This is then input into a DFT (Dynamic Focus Transformer). DFT is also capable of providing an amplitude of 300Vp−p at the DFT OUT when the phase is shifted and amplified and when the input is 3Vp−p.

2) V Dynamic Focus
The dynamic focus waveform is added within the focus pack to the focus voltage through condenser integration. Due to pressure and size considerations, a large size condenser could not be selected and the one that was used at this time has a very small capacity of 100PF. Unlike the H waveform, the V waveform has a very low frequency which makes it difficult for the waveform to path, causing a reduction in amplitude and shifting of the phase. In view of this, a circuit like the one shown below was used, enabling us to realize the transmission of the dynamic focus waveform. By placing a time constant that is the same as the time constant in the focus pack within the negative feedback system, it will be possible to send the desired waveform as output.

〈Equivalent circuit〉



2/2 of IC201 (uPC814C) is the operational amplifire of the negative feedback system, Q203 the reversing amplifire and Q204 the output buffer. The time constant of C210 (0.1MF) and R212 (10K) is aligned with the time constant within the focus pack. In practice, since this C, R (C210, R212) is a differentiator, it is not possible to apply the negative feedback system to the direct current portion. For this reason, the direct current portion is first integrated by R214 and C209, and then feed back to R213. The V content requires an amplitude of about 100Vp−p within the focus pack. The output of Q204 has an amplitude ranging from 150V to 400Vp−p and its magnitude is determined by the frequency of vertical. By entering the vertical content, output from Q204 to the secondary side of DFT, the horizontal content is modulated and the total output is input into the focus pack.

2. AUDIO AMPLIFIER

The audio signal input from pin ① of connector K−3 goes through buffer Q205 and is received by IC203 (uPC1241H) which is the amplifire IC. Speakers are driven directly by this IC. Q206 is a series regulator transistor and is used to suppress the power supply's ripples from appearing in the sound.

3-7. Circuit Board Y

1. Power Supply Block (PS1, PS2, D1, D2)

PS1 and PS2 serve as a power cutting fuse when a voltage overload occurs within board Y. In addition, D1 and D2 convert the voltage from +5.7V (−5.7V) to +5.0V (−5.0V). When pressing the main power switch of the set, SUB +5V is supplied, and when pressing the power switch of the commander, ±5.7V is supplied.

2. CPU Block

2−1. CPU (IC1)
A Z80 series 8−bit CPU with SIO, TIMER and other supporting ICs integrated into a single chip is used.

2−2. MEMORY (IC2, 3, 4)
This is made up of programmable ROM (IC2), a general purpose S−RAM (IC3) for flag and data READ/WRITEs, and a non−volatile ROM (IC4) used to record adjustment data, etc.

2−3. BUS BUFFER (IC7, 8)
A hysterisis−type current buffer is used for data transfers to systems external to the Y board (DB and L boards).

2−4. RS422 (IC24)
An RS422 transmitter/receiver for communications with external computers, automatic adjustment devices, etc.

2−5. RESET CIRCUIT (IC5, Q1, 2)
A power−on reset circuit for the CPU and SIRCS DECODE IC. Q1 and Q2 operate so that a normal reset occurs during instantaneous drop in power voltage caused by sudden black out, etc.

3. SIRCS Block

3−1. SIRCS DECODER (IC9), WAIT CONTROL (IC6)
This IC decodes SIRCS signals to enable the codes to be read by the CPU. The following processes take place from the time the SIRCS signals are received until the codes are read by the CPU :

* The "CONT" terminal is set to Low when a valid SIRCS code is received.
* A CPU interrupt occurs and the CPU turns the "CE/OE" signal of IC9 to Low.
* IC6 (mono−multi) puts the CPU in WAIT state for a few msec.
* Finally, the data are read into the CPU.

3−2. POWER CONTROL (Q3, 4, 5)
When IC9 decodes a POWER ON (OFF) code, it unconditionally turns Q3 ON (OFF) and sends (cuts) the current supplied to the "power cont" line, thereby enabling control of the power supply. When the protector is activated, the power supply is cut by externally dropping the "power cont" line to GND. However, it should be noted that in such cases the operation of the protector is detected by Q4 and IC9 is reset by Q5.

4. I/O Port Block

4−1. ADDRESS DECODER, PARALLEL I/O PORT, INTERRUPT CONTROL (IC10, 28)
IC10 is a dedicated gate array with the above functions and is a PORT that is used to READ ch−select and other control/input signal information. Additionally, it receives the control line for each protector and is also equipped with such functions as generating a CPU interrupt while it is in operation.

4−2. DIP SW (SW1, 2)
SW1 is a special switch used for mode adjustments at the factory ; normally all bits (SW1−1 to 4) must be set to ON.
When SW2 is pressed, all adjustment data defaults to the factory setting.

5. fH/fV DETECT Block (IC12)

The present deflection frequency is detected from the VD/HFHD signals supplied by the deflection system and the information is sent to the CPU.

6. SYNC Block

6−1. SYNC CONTROL & CLAMP PULSE GENERATOR (IC11)
This is a gate array that generates SYNC pulses for the deflection system and clamp pulses for the signal system. It uses SYNC signals received from the signal board (H/C−sync, V−sync, Sync on Green) for its input. Itfeatures : * Detection of input SYNC signals (existence or non−existence of each SYNC and its polarity)

* Selection of SYNC source (H/V−sync, Sync on Green or Composite−sync)
* Alignment of SYNC polarity (Reversed when H/V−sync has a positive polarity)
* H/V separation for Composite−sync and Sync on Green
* Phase control of clamp pulses
* Width control of clamp pulses
* Transmission of various function control signals and information through the CPU BUS

6-2. H-SYNC REFORM (IC6)

Maintains the width of H-sync sent to the deflection system for approximately 2 μsec.

6-3. V-SYNC DETECT (IC26)

Detects whether V-sync out pulse of IC11 exists or not and sends this information to the CPU. For example, this is done to determine if the signal connected to H／C-SYNC input terminal is composite or not.

7. CHARACTER GENERATOR/INTERNAL SIGNAL GENERATOR Block

7-1. CHARACTER GEN. INT-SG (IC13, 14, 15, 16, 17)

Whenever an input exists, a clock synchronized to "HFHD" and "VD" are used to generate each test pattern and character. When input does not exist, the H and V-sync pulses, test patterns, and characters are created by a crystal-oscillated clock. (IC13)

IC14 is a high-speed S-RAM to record the position and color of the screen characters, while IC15 to 17 are mask ROMs to record character font data.

7-2. TTL to ECL CONVERTER (IC18, 19)

Because INT SG, character R/G/B, and BOARDER (shadow of characters) signals contain high-frequency contents, they are converted to ECL before being sent to the signal system board.

7-3. PLL (IC20, 21, 22, 23, 25, Q6)

Characters and internal signals are generated by synchronizing them with the incoming signals (HFHD and VD to be precise) with the use of a PLL circuit. The output from the phase comparator system (IC20) passes through an active filter composed of C44, R94, 95, and IC20 are then fed into a VCO (IC21). The output from VCO first goes into IC13 "CKIN" and then passes through a 1／417 pre-scaler equipped within IC13. Finally, the output is returned to the phase comparator.

Since a single VCO imposes a limit on the frequency range that can be locked, 2 VCO units (IC21 is actually composed of 2 VCO units) are used : one for high-band use and the other for low-band use. The VCOs are switched by IC22's voltage converter and the flip-flop of IC23.

Furthermore, to improve the stability during locked conditions, Q6 and IC25 are used to control the polarity of the correcting waveform of IC20 pin ③.

7-4. VD SYNCHRONIZE (IC26, 27)

When VD and HFHD are in a certain phase relation, IC13's internal counter deviates by 1 count and may cause V-jitter of the characters. For this reason, the phase of VD is shifted to a stable position.

3-8. Circuit Boards PA and PB

1. HIGH-VOLTAGE GENERATOR

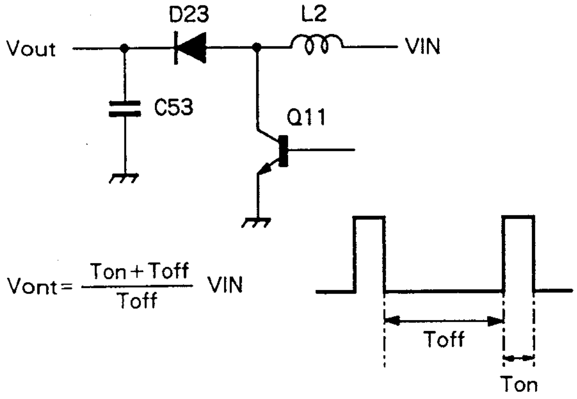
As this is a wide-range multiscan compatible unit, it is difficult to construct a high-voltage circuit by synchronizing with fH as in previous circuits. Therefore, an asynchronous type high-voltage generator having its own oscillator was devised.

The oscillating element X1 is the oscillator's basic clock and oscillates at approximately 500KHz. This clock is divided by IC7 and IC8, generating a 15.625KHz pulse as its internal oscillator (INT OSC). This pulse is output from pin ⑤ of IC8 and this INT OSC is used as a switching pulse between two circuits, one of which is sent through buffer Q3 and used in the high-voltage generator circuit. The other passes through buffer Q4 and connector PA-3 and becomes the switching pulse for the negative power supply for board E. The pulse passes through buffer Q3 and connector PA-7 and added to Q6, the transistor used to drive transformer Q6. The output of this drive transformer (T2) drives FBT's converter Tr (Q10). Q19 is the power current source for controlling the drive condition of converter Tr (Q10). By fixing its base and by adding the same voltage as +B of FBT to the emitter resister (R112), it modifies the energy of the primary side of the drive transformer in accordance with the HV load, enabling converter Tr (Q10) to be driven most efficiently. The basic section of the high-voltage circuit is the same as with previous circuits in which Q10 is the converter Tr ; D20 and D21, the damper diode ; C51, the common condenser ; L3 and L4, the dummy L ; and C54, an S-shaped condenser. To realize high output to FBTs are connected in parallel. From one of them (FBT 1) the MV for use as the focus voltage is extracted.

As this particular system uses an asynchronous high-voltage method, the high voltage's ripple content can easily affect the screen. For this reason, the high voltage generated by FBT is once passed through a filter (HVF) and then is added to HVB which distributes and detects high voltage. This is then supplied to each CRT.

2. HV REGULATOR

In a high−voltage regulation method, +B of FBT is controlled (FB pulse level controller) to maintain a constant high−voltage level. The +B that is being controlled is made by stepping up a +100V by a switching regulator circuit. The degree of step up is determined by the duration of switching ON and OFF. When the ON duration is long, the degree of step up is greater and vice versa. The high voltage is reduced by a factor of approximately 4125 by HVB and the output passes through connector PA−7 and goes into buffer IC1 (uPC4082, 1/2). This buffer output is further divided by high−voltage adjustment resistors △R41 and △R42 and is input into the plus side (pin ①) of operational amplifire switching regulator IC6 (uPC1394). The minus side (pin ⑭) is supplied with the voltage (approximately 3.0V) of IC9, the standard voltage source. It is through this difference in voltage that the ON−OFF Duty of switching pulse (pin ⑦ output) is modified. The output of pin ⑦ passes through buffer Q20 and into the drive converter circuit Q5 and T1. There, the polarity of the pulses are reversed and the switching transistor Q11 driven. Q11 steps up the +100V voltage by switching L2 and regulating with D23 and C53. If the high voltage rises and exceeds the voltage (pin ① of IC6) of the detector side, the ON interval of Q11 shortens and +B is lowered, causing the high voltage to fall. In case the high voltage level falls, a completely opposite operation takes place. As this goes to show, a negative feedback is applied so that the high−voltage detector voltage is always equal to the standard voltage (approx 3.0V).



$$Vont=\frac{Ton+Toff}{Toff}VIN$$

3. HIGH VOLTAGE PROTECTOR

1) HV Protector

This is a protector to suppress any abnormal rise in HV due to some accident. The HV voltage is divided by the high voltage block (HVB) and by △R33, △R34 and is input into the plus side of 1/2 of IC2 (uPC393C). A comparator voltage (approximately 4.8V) generated by zener (RD5.1ESB2) should be input into the minus side. The protector is activated when HV rises and the voltage on the plus side exceeds that of the minus side. It operates by first turning the 1/2 side of IC2 (uPC393C) ON and the 2/2 side OFF. The oscillation of the HV Regulator is stopped by D8 (ISS119) and Q7 is then turned ON. This causes the oscillation of the converter to be stopped. After dropping HV, D28, Q16 and Q15 are turned ON and the power turned OFF.

2) Σ IK Protector

This protector suppresses any abnormal beam to flow through the CRT. The current of FBT's secondary side is changed to a voltage by R44 to R47, R119, R120 and the protector is activated when this voltage exceeds a certain level. This detecting voltage is divided by R121 and R1 and is input into the base of Q1, which is usually set to the ON position. As the beam current gets larger, the detecting voltage lowers rapidly to the minus side until it reaches a point where Q1 is turned OFF and the protector is activated. The method of operation is the same as (1) HV Protector. The oscillation of the regulator is first stopped, the HV dropped, and finally the unit's power turned off. The unit consists of 2 channels of identical Σ IK protectors.

3) Low B Protector

This protector is activated when IC5 (uPC78M12H), an IC that generates Low B (+12V) inside board PA, is destroyed and as a result Low B (+12V) increases. A voltage generated by resistance dividing Low B (+12V) is input into the plus side of IC1 (uPC4082C) 1/2 while a comparator voltage generated by zener (RD5.1ESB2) should be input into the minus side. The protector is activated when Low B rises and the voltage on the plus side increases.

4) Regulator Protector

This protector protects the element by turning off theoscillation of the regulator when the regulator's voltage becomes abnormally high such as when a high voltage load has been opened. The voltage at the regulator out is divided by R48 to R50, R14, R15 and is input into the plus side of IC3 (uPC393C) 1/2. A comparator voltage should be input into the minus side. When the voltage at regulator out rises, this operational amplifire is enabled and the protector activated.

4. **INTERNAL PROTECTOR**

The circuit is designed so that when certain abnormal modes (for example, when deflection is disabled) are encountered the power is immediately cut off to avoid secondary disasters within the unit. Among the devices, H STOP (horizontal deflection disabled), V STOP (vertical deflection disabled), and FAN PROT (fan protector) all have their power-cut unit centralized on board PA. H STOP and V STOP send their output to the respective open collector and an OR operation is performed with B24 and D25. During abnormal conditions, Q16, Q15 turn ON and brings the "POWER CONT" line to low, thereby cutting off the power. Since the polarity of the "FAN PROT" signal is the opposite of H STOP and V STOP with normal ON generating output, the signal is reversed by Q17 and input into Q15.

3-9. Series E Board Circuit Operation

1. F-V Conversion

H-KEY, H-PIN and H-SIZE are input throught E-1 connector and added at IC106 (1/2). This output,

(a) passes R131 and is input to IC105.

(b) is input to IC106 (2/2) and compared with H-SIZE detection output. The error difference is input to IC103 (2/2) and fully integrated and amplified, which then passes R186 and is input to IC105.

It is again fully integrated at IC105 (1/2). This DC passes R103 and switched by Q101. IC101 (1/2) generates pulse which is synchronous to 5 μs width fH and inputs it to Q101 gate.

Here, voltage proportional to H-SIZE voltage and fH, is generated. This output passes IC102 buff, is integrated at R111, C105, R109 and C104, and output at IC104 (1/2) to complete F-V conversion.

2. Negative Power Section

F-V conversion output and negative power is compared at IC104 (2/2) and added to IC111 pin ①.

IC105 (2/2) generates bias and adds it to IC104 (2/2). IC111 is a switching regulator. IC, and outputs pulse which complies to pin ⑭ and pin ① voltage, to pin ⑦. This pulse is switched at Q109 and drives Q107, 108, and the output drives Q110 through T105.

Pulse output to Q110 source is rectifide at D112, C124 to generate negative power. R208 is for current detection and IC111 pin ⑤ is connected at top end to protect against over current.

3. PIN MOD Section

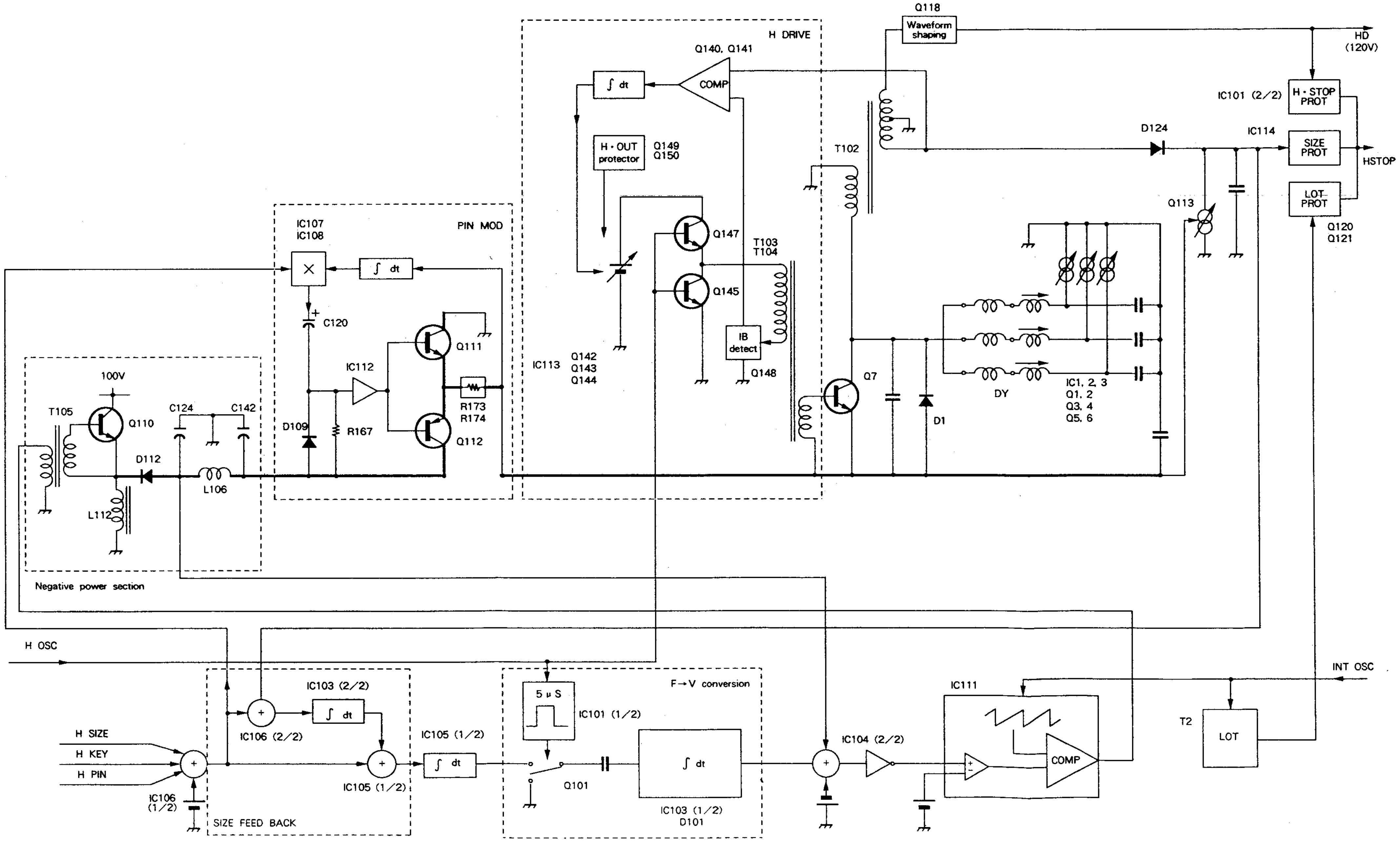
H-KEY, H-PIN correction wave is input through E-1 connector, added at IC106 (1/2) and output from pin ⑦. This output passes IC110 and is input to IC107 pin ④. On the other hand, PIN MOD OUT voltage divided by R150, R285 and R149 is input to IC107 pin ⑨. With these two inputs, PIN MOD correction voltage which corresponds to fH H-SIZE is output to IC107 pin ⑭. This output is amplified at IC108, passes Q103 and Q104 buff, and is input to IC112. When this occurs, PIN MOD correction wave is clamped to negative power by IC109. IC112 operates around negative power electric potential. Q111, 112 are driven by voltage output from IC112 pin ①and PIN MOD OUT voltage is output to Q111, 112 source.

4. H-DRIVE Section

H. OSC is input from E-1 connector pin ⑤, passes R233 and input to Q130, 131 base. The signal is divided into two by Q130, 131 emitter.

One signal passes C161 and input to Q145 gate. Q145, 146, 147 are transistor for per-drive. These transistor switch Q7 (H.OUT) through T103, 104 (HDT). The other signal passes R234 and is input to IC113 (1/2). IC113 output pulse becomes saw-tooth wave at R238, C150. Q132 is a constant current source. Pulse is compared at Q133 and 134 to control Q132 constant current source and keep saw-tooth wave amplitude constant.

This saw-tooth wave and IB2 constant circuit output voltage, which will be explained later, are compared at IC113 (2/2) and the pulse difference is output to IC113 pin ⑦. This pulse passes Q135, 136 buff and input to Q142 gate. Q142, D118 and C159 construct a STEP UP regulator. Normally, 100V is supplied to Q143 and Q144 collector, but when Q142 switch, the additional voltage is supplied to Q143 and Q144 collector. Q144 emitter is connected to Q146, 147 collector. Normally, 100V power is supplied through Q143, 144 series regulator, but when more drive is needed, Q142 operates to supply power over 100V.


Q118
Waveform shaping
HD (120V)
H DRIVE
Q140, Q141
∫ dt
COMP
IC101 (2/2)
H·STOP PROT
D124
IC114
SIZE PROT
HSTOP
H·OUT protector
Q149
Q150
T102
LOT PROT
Q113
Q120
Q121
IC107
IC108
PIN MOD
×
∫ dt
Q147
T103
T104
C120
Q111
Q145
IC112
IB detect
IC113
Q142
Q143
Q144
Q148
Q7
100V
T105
Q110
C124
C142
D109
R167
R173
R174
Q112
DY
D1
IC1, 2, 3
Q1, 2
Q3, 4
Q5, 6
D112
L106
L112
Negative power section
H OSC
IC103 (2/2)
∫ dt
F→V conversion
5 μS
IC101 (1/2)
IC111
INT OSC
T2
LOT
H SIZE
H KEY
H PIN
IC106 (2/2)
IC105 (1/2)
∫ dt
IC105 (1/2)
Q101
∫ dt
IC104 (2/2)
COMP
IC106 (1/2)
SIZE FEED BACK
IC103 (1/2)
D101

(IB2 Constant Circuit)

Current (IB) which flows on the primary side of T103, 104 (H. D. T) is detected at R267, 268 and generated as voltage at Q148 collector. This voltage passes R225 and input to Q140 base. In the meantime, H. O. T. secondary side H. Pulse divided by R259, 260 and R259 is input to Q141 base. By comparing the peak voltage of the two, IB2 is always remaind constant.

H. Pulse > At IB2 peak (under−drive)

Q140 cut off→Q139 base potential rise→Q139 collector potential lowers→Q137 base potential lowers→Q137 collector potential rises→Q144 emitter potential rises→ to over−drive.

H. Pulse < At IB2 peak (over−drive)

Q141 cut off→Q139 base potential lowers→Q139 collector potential rises→Q137 base potential rises→137 collector potential lowers→Q144 emitter potential lowers→to under−drive.

Feed Back is conducted as above.

5. H−SIZE Feed Back Section

H. O. T. secondary side H. Pulse is peak rectified at D124 to convert it to H. SIZE detection output.

Q113 is a variable current source, and works to get the same detection out puteven when fH is different at the same pulse height. This output is returned to IC106 (2／2), compared with input and the error difference is controlled.

6. HD Output Section and H. STOP Protector Section

AFC HD clamps H. O. T. secondary side H. Pulse at C144, D113, re−shapes the wave at Q118, passes pulse through Q116, 117 and outputs from E−1 connector pin ⑨.

HD output from Q116, 117 emitter is input to IC101 pin ⑪. As long as HD is input to IC101 pin ⑪, pin ⑩ is High. Therefore, Q115 is ON and H. STOP line is normally Low. If HD is not input, IC101 pin ⑩ becomes Low and Q115 turns OFF and as a result, H. STOP line becomes High and set power turns OFF.

Other protectors are H−SIZE MAX／MIN protector and 100V line LOT circuit over current protector.

IC114 detects H−SIZE MAX／MIN.

When H−SIZE becomes too large, IC114 pin ① becomes Low.

When H−SIZE becomes too small, IC114 pin ⑦ becomes Low.

This output passes D139 and connects to IC101 pin ⑬.

When pin ⑬ becomes Low, IC101 pin ⑩ becomes Low and protector actuates.

LOT circuit over current protector detects current at R221. When there is over−current, first Q120 turns ON and then, Q121.

Q121 collector is connected to IC114 pins ①, ⑦ line, and protector actuates as above.

3-10. Circuit Board KA

1. Self − Diagnosis Function

This unit is equipped with a self−diagnosis function which is activated in case of a major malfunction.

The system operates by transmitting an ON／OFF signal from individual parts to the protector circuit and CPU in parallel. The protector circuit swichers off the unit, and the CPU transmits the error data to the 8−bit data bus. The input for the 8−bit data bus is the KA−9 connector. IC1004 is a buffer and IC005 and IC006 are driver circuits for indicator IC007. In this way, an error mode is indicated in IC7. The table on the under shows each mode.

Contents

FAN stop ……	One of the 8 fans inside the unit is malfunctioning
100V down ….	When the power is turned on 100V is not supplied. Normally H. OUT and CONV malfunction.
IK over …….	When the beam rolls too much.
V. stop …….	DC board malfunction. 15V line is overloaded or the V deflection stops.
H. V. over ….	High−voltage protector mode.
Power down ..	CPU malfuction.

The following table shows the codes displayed on the 7−segment, two−digit LED display om the KA board. When one of the codes on the right is displayed, the corresponding LED on the Y board also illuminates.

Failure Display

When the protectors are activated, codes are displayed as shown below and the unit turns off automatically.

- When one of the codes shown above is displayed, the last adjustment data will be lost.
- Code indication will be erased when main power is turned off or the unit is reset normally by power on with the commander.

code	FAN stop	100V down	I K over	V. stop	H. V. over	power down
01....	*	−	−	−	−	−
02....	−	*	−	−	−	−
03....	*	*	−	−	−	−
04....	−	−	*	−	−	−
05....	*	−	*	−	−	−
06....	−	*	*	−	−	−
07....	*	*	*	−	−	−
08....	−	−	−	*	−	−
09....	*	−	−	*	−	−
0A....	−	*	−	*	−	−
0b....	*	*	−	*	−	−
0C....	−	−	*	*	−	−
0d....	*	−	*	*	−	−
0E....	−	*	*	*	−	−
0_....	*	*	*	*	−	−
10....	−	−	−	−	*	−
11....	*	−	−	−	*	−
12....	−	*	−	−	*	−
13....	*	*	−	−	*	−
14....	−	−	*	−	*	−
15....	*	−	*	−	*	−
16....	−	*	*	−	*	−
17....	*	*	*	−	*	−
18....	−	−	−	*	*	−
19....	*	−	−	*	*	−
1A....	−	*	−	*	*	−
1b....	*	*	−	*	*	−
1C....	−	−	*	*	*	−
1d....	*	−	*	*	*	−
1E....	−	*	*	*	*	−
1_....	*	*	*	*	*	−
20....	−	−	−	−	−	*

- When one of the codes shown above is displayed, the last adjustment data will be lost.
- Code indication will be erased when main power is turned off or the unit is reset normally by power on with the commander.

2. Audio Circuit

The KA−3 connector is used for the audio input .

R−channel input is fed to audio input pin 1 of IC003 through the buffer of Q004, and L−channel input is fed to audio input pin 18 of IC003 through the buffer of Q008. Feedback system ; Pin10 ⇨ R064 ⇨ R048 ⇨ Pin 2. Voltage gain is determined at R048 and RV001,R047. The voltage gain for the L−channel is determined at R056 and RV002, R058. Low range cut−off frequency is determined at C025 and C030.

$$f_L = \frac{1}{2\pi \cdot C025 \cdot (RV001 + R047)} \times 5.6\ \text{Hz}$$

Q007 and Q011 are audio input R／L through−out buffers. Q005 and Q009 comprise the power on mute circuit. When the power is turned on, C052 is charged, Q005 and Q009 turn on, Q004 and Q008 turn off, and the input to IC003 is cut.

Q012 is the power off mute circuit.

When the power is turued off, Q012 is turned on by the difference in the capacity between C023 and C024, pin 6 of IC003 is pulled to -12V and muting is applied.

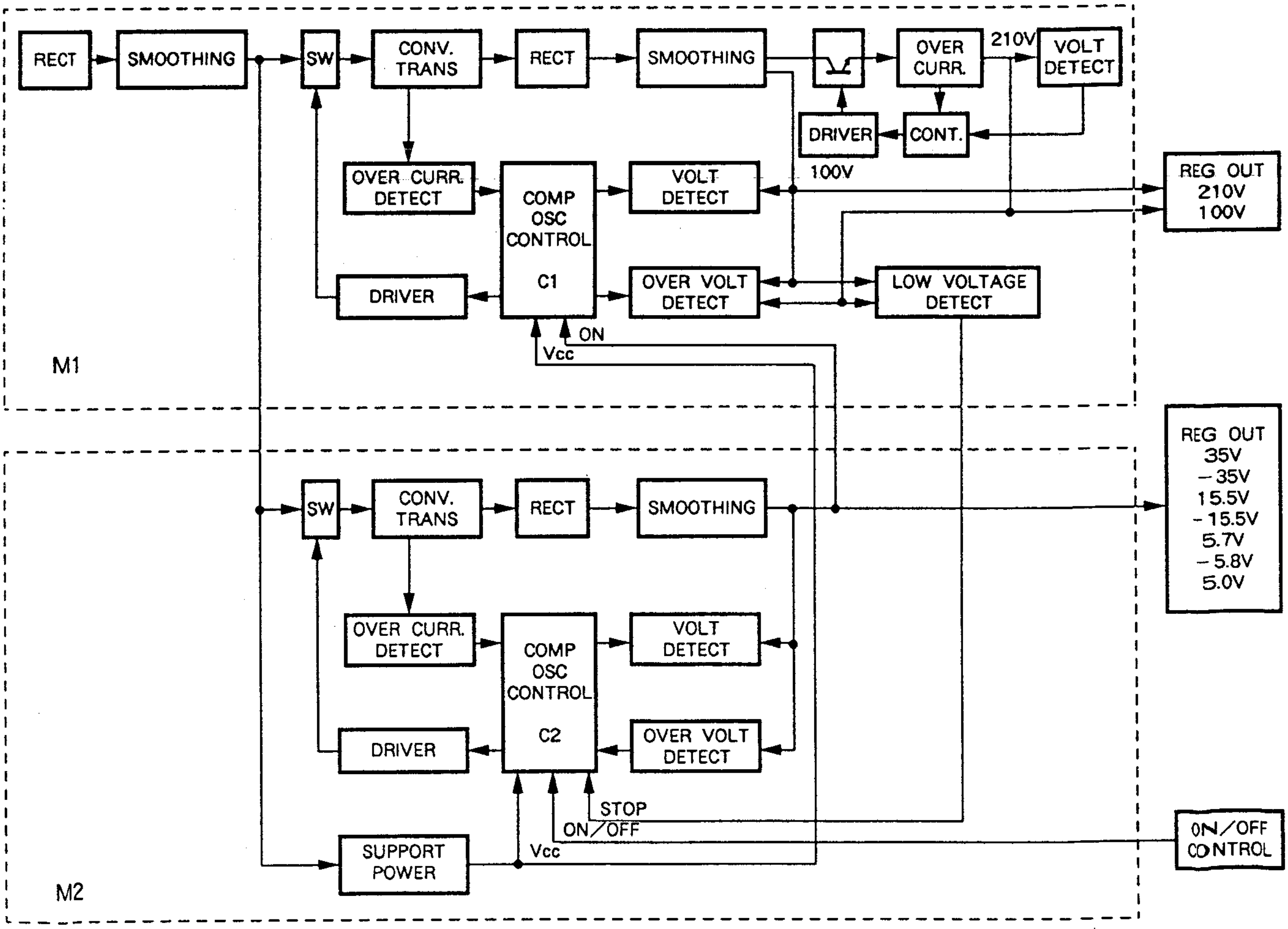
3-11. Circuit Board KB

The KB board is the protector circuit. Normally, pin ① to pin ③ of the KB – 1 connector is connected to ground.
In this condition, Q020 to Q022 are all off, thus pin ② of KB – 2 is -12V.
If there is an error mode and one of pins ① to ③ of KB – 1 becomes open, pull – down is performed inside each board. So the transistor is turned on and the electric potential of pin ② on KB – 2 becomes GND. (This is the protector mode.)

3-12. SOPS-1008

This power source is composed of 2 half bridge converters and 1 self-excited flyback converter (auxiliary power source.) When the main switch is turned ON, at first the auxiliary power source operates, voltage is supplied to boards C1, C2 of the board M1, and their respective control IC (IC51) operate. At this point, the power source doesn't operate, but instead, ON signal (about 5V) is input from outside, and the power source of board M2 starts operating.

As the power source of board M2 operates, outputting a voltage, a part it is supplied to pin ③ of board C1. This becomes the ON signal, causing the power source of M1 to start operating.


RECT
SMOOTHING
SW
CONV. TRANS
RECT
SMOOTHING
OVER CURR.
210V
VOLT DETECT
DRIVER
CONT.
100V
OVER CURR. DETECT
COMP OSC CONTROL C1
VOLT DETECT
DRIVER
OVER VOLT DETECT
LOW VOLTAGE DETECT
ON
Vcc
M1
REG OUT 210V 100V
REG OUT 35V −35V 15.5V −15.5V 5.7V −5.8V 5.0V
SW
CONV. TRANS
RECT
SMOOTHING
OVER CURR. DETECT
COMP OSC CONTROL C2
VOLT DETECT
DRIVER
OVER VOLT DETECT
STOP
ON/OFF
Vcc
SUPPORT POWER
ON/OFF CONTROL
M2

3-12-1. C2 Board (Control Board)

Pins ①, ② of IC51 constitute the error amplifier for controlling the output voltage. The output of 5.7V is divided by R71.270, RV2551 and input to pin ①. As reference voltage, the voltage (+5V) that is supplied from pin ⑭ is divided by R62, R63, and is input to pin ②. Pin ④ is for dead time control, and while it is "High", on duty becomes "0".

Since pin ④ remains "High"while ON signal is "Low" (ON signal is input via Q251, 258), power source doesn't operate. Oscillation frequency is determined by pins ⑤, ⑥. Pins ⑧, ⑨, ⑩, ⑪ make the output transistor terminal of IC51, and main transistor is driven via T153, T154. Pin ⑭ is the reference voltage (5V) output, and pins ⑮, ⑯ make the error amplifier for overcurrent protection. The voltage detected by T152 is smoothened out with rectifier L1, C53, by D61, 62, 63 ; and is then input to pin ⑯.

3-12-2. M2 Board

C152, 153, 166, 167, Q151, 152, T151 constitute the half bridge converter. The AC voltage that is output from T151 is rectified by D251, 252, 253, 254, 255, 256, and then smoothened by L251, 252, 253, C265, 266, 267, 268, 270. D276, 277, 278, 279, R265, 266, 261, 263, IC252 constitute the overcurrent protection circuit. If any of their respective output voltages exceed the reference voltage, pin ① of IC252 turns "High", pin ⑨ (IC2) is input into, D58 turns ON, Q53 turns ON, pin ④ (IC5) turns "High", and the operation halts.

3-12-3. C1 Board (Control Board)

Operation of this board is identical to that of board C2.

3-12-4. M1 Board

C109, 110, 111, 112, Q101, 102, 103, T1013 constitute the half bridge converter. The AC voltage that is output from T101 is rectified by D201, 202, 203, 204, 205, 206, and then smoothened by C201, 202, 213, C214, 215, 216.

Q204, 205, R232, 233, Q206, 207, R234, 235, 236 constitute the overcurrent protection circuit.

In case of 10V output, if the voltage that is divided by R232, 233 exceeds +5V, Q204 turns ON, "High"signal is input to pin ⑨ (IC1), D58 turns ON, Q53 turns ON, pin ④ (IC51) turns "High", and the operation halts.

IC203, R247, 248, 249, 250, 251 constitute the low voltage protection circuit.

In case of 100V output, the voltage that is divided by R247, 248 is input to pin ⑧ (IC203), making it the reference pin ⑤. When the voltage of pin ⑥ becomes lesser than that of pin ⑤, "High" is output through pin ⑦, which is then input to pin ③, time is delayed by C227, R241, "High" signal is output through pin ①, which is then conveyed to pin ⑨ of board C2 of the board M2, and the operation halts.

R201, IC201, R217, 218, RV202 constitute the series regulator. And, R208, 209, 210, 212, 213, 214, 215, 254, RV201 constitute the overcurrent protection circuit.

SECTION 4
SET-UP ADJUSTMENT

Note :
- When exchanging CRT, fit tightly DY to CRT, set neck assembly position and adjust.
- Service mode is released when the power is turned OFF.

Protection against X-Rays

Circuit diagrams with X-radiation related parts (there is danger of radiation from CRT R, G, B) are preceded by a NOTE which must be observed.

The mechanical parts for protection against X-rays are shown below.

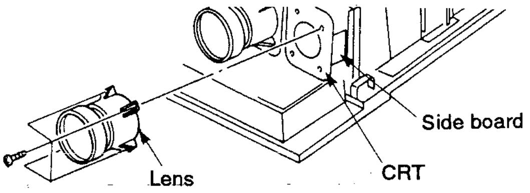
When voltage is to be supplied to the CRT, make sure that there parts are attached.

1. CRT assembly (R, B side board)
2. Lenses (R, G, B)

Failsafe Protection

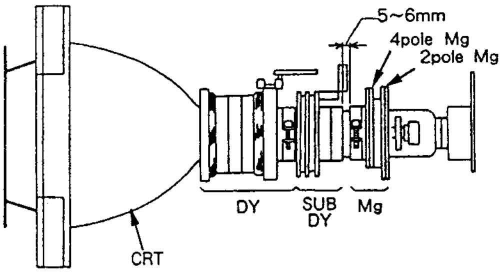
When the lens has not been attached.

There is one ground lead wire for each lens (R, G, B). As long as the lead wires are connected to ground by the lens fixing screws, the power is turned on. However, if one of the wires is not connected to ground, the power cannot be turned on.



4-1. Neck assembly installation

1. Fit DY tightly to CRT funnel first and then tightly fit Sub DY.
2. Temporary install 2-pole and 4-pole magnet assembly 5-6mm away from left DY.
3. Installing CB board.

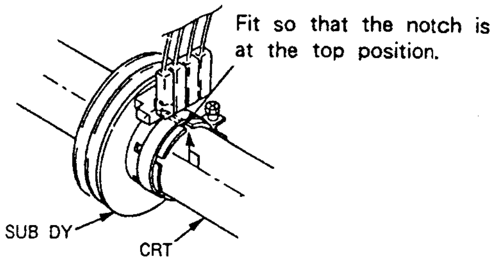


4-2. Adjusting screen inclination by main DY

1. Turn off the switch (SW1 - 1) on the Y board.
2. Turn set power ON and remote commander power key ON.
3. Press TEST key for 5sec and then arrow ▲ key to set at service man-mode.
4. Press TEST key to display cross-hairs.
5. Turn main DY and adjust screen inclination.
   - When red CRT is exchanged, display green and red cross hair pattern, and match horizontal cross-hair to adjusted green CRT.
   - When green, blue CRT is exchanged, display cross hairs of the exchanged CRT color and the adjusted CRT color, and match horizontal cross-hair to the adjusted CRT.
6. Fix main DY after adjustment.
7. After all adjustments are completed, turn off the power switch on the remote commander and switch off the main power. Confirm that the STAND - BY LED is off and turn on the switch (SW1 - 1) on the Y board.

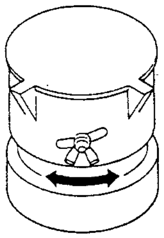
4-3. Sub-DY Adjustment

1. Fit to main DY and set at the mechanical center.

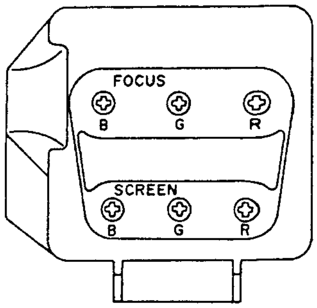

Fit so that the notch is at the top position.

4-4. GREEN Focus Adjustment

1. Input monoscope signal.
2. Press commander CUT-OFF R, B key and cut-off R, B.
3. Turn main green lens and obtain best display on screen.

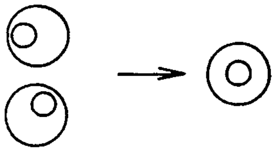


4. Turn focus pack GREEN FOCUS VR and set at best focus point.
5. Turn main green lens and focus screen center and temporary fix lens screw.



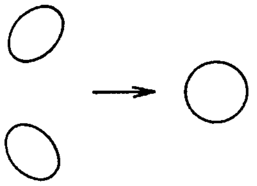
6. Loosen screw temporarily fixing main green lens. Make fine adjustments and fix lens with fixing screw.

7. Input DOT signals.
8. Turn focus pack GREEN FOCUS VR a little to the left from the just focus point until halation surrounds DOT.
9. Use a 2-pole magnet to bring the DOT core to the center of halation. (Fig. 1)



(Fig. 1)

(2-pole magnet adjustment)



(Fig. 2)

(4-pole magnet adjustment)

10. Turn focus pack GREEN FOCUS VR a little to the right from the just focus point to slightly change DOT shape.
11. Use a 4-pole magnet to make DOT shape circular. (Fig.2)
12. Repeat 9 through 12 for tracking.
13. Turn focus VR and adjust for the best focus.

4-5. RED Focus Adjustment

1. Press Commander CUT-OFF G, B keys and cut-off green and blue.
2. Adjust following green focus adjustment instructions no. 8 to 13.

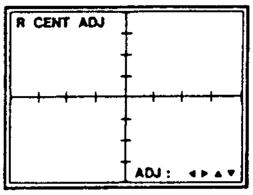
4-6. BLUE Focus Adjustment

1. Press Commander CUT-OFF G, B and cut-off green and red.
2. Follow green focus adjustment instructions nos. 8-13.
3. Press Commander INPUT SELECT A and input fH=76KHz R, G, B signals.
4. Press PAGE and set color temperature at 6,500° K.
5. Press GAIN and confirm blue gain data is "204".
6. Press BIAS and confirm blue bias data is '128.'
7. Press RESET.
8. Press TEST to display H pattern.
9. Press CUT-OFF G, B and cut-off green and red.
10. Adjust focus pack blue focus VR to just focus poin.

Registration Adjustment

Centering Adjustment

1. Press ZONE to display cross-hairs.
2. Press ADJ R when the red CRT is replaced.
3. Use the arrow keys ◀ ▶ ▲ ▼ and align the red center line with the green center line.



Note 1) Zone control mode ① adjust centering.
CENT R and B provide small variation width for users.
CENT R and B become the G centering adjust mode when pressed simultaneously. The variation width is also small.

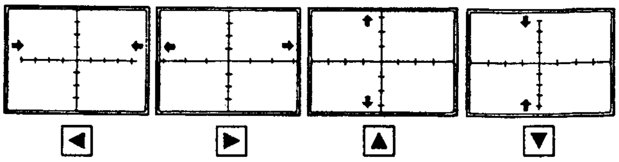
Note 2) When the computer display is shifted, press RGB SHIFT and adjust with arrow keys ◀ ▶ ▲ ▼. Then, press MEMORY. The test signal position dose not shift after pressing TEST.

Note 3) Follow the instructions below when the VIDEO display position is shifted :

① Press ZONE.
② Press ADJ G.
③ Press TEST for minimum 5 seconds to display VIDEO. Press CUT OFF R and B for G monocolor. Adjust with arrow keys ◀ ▶ ▲ ▼.
④ Press ZONE again.
Press ADJ R.
Match G and R.
⑤ Press ADJ B to match R and B.
⑥ Press NORMAL to macth R and B.
⑦ Press TEST.
Test signal position is shifted.

Size Adjustment

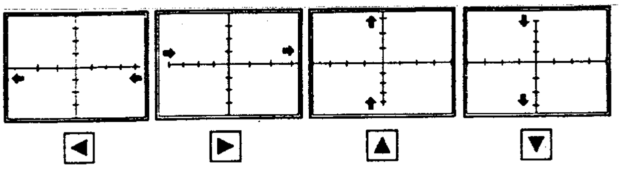
1. Press TEST to display the cross-hairs.
2. Press SIZE for size adjustment mode.
3. Adjust display size against the screen with arrow keys.
4. Match 4 display dimensions.



5. Follow the instructions below when the computer display size is too small or too large. Press RGB SIZE and adjust with arrow keys ◀ ▶ ▲ ▼.
   Press MEMORY.
   Test signal size is same when pressing TEST.
6. Follow the instructions below when the VIDEO display size is too small or too large.
   ① Press SIZE.
   ② Press ADJ G.
   ③ Press TEST for minimum 5 seconds to display VIDEO. Press CUT-OFF to turn off R and B, and make Green light.
   Adjust with arrow keys ◀ ▶ ▲ ▼.
   ④ Should blanking occur, press BLKG. Press POSITION + or − to select the adjusting position. Adjust with arrow keys ◀ ▶ ▲ ▼.
   ⑤ Press TEST. The test signal size is not changed.

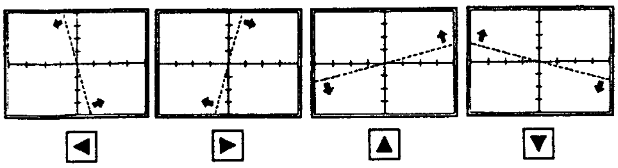
Linearity Adjustment

1. Press LIN and set at linearity adjustment mode.
2. Use arrow keys to adjust vertical and horizontal balance.
3. Adjust in four directions.



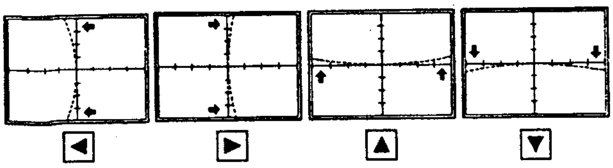
Skew Adjustment

1. Press SKEW and set at skew adjustment mode.
2. Use arrow keys to adjust each center line vertically and hirizontally.



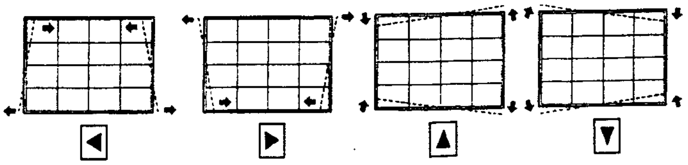
Bow Adjustment

1. Press BOW and set at bow adjustment mode.
2. Use arrow keys to straighten bowing line.



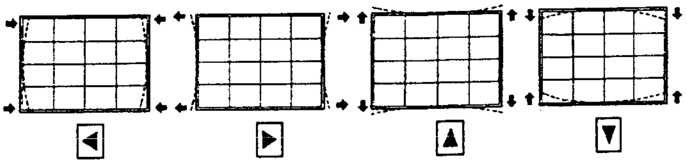
Keystone Adjustment

1. Press KEY and set at keystone adjustment mode.
2. Use arrow keys to adjust trapezoid shape distortions vertically and horizontally.



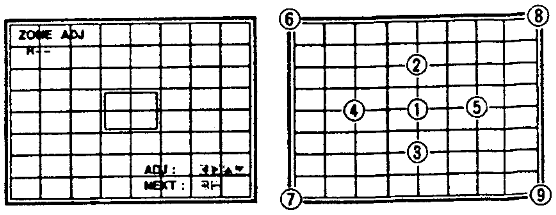
Pincushion Adjustment

1. Press PIN and set at pin adjustment mode.
2. Use arrow keys to adjust spool shape distortion vertically and horizontally.



Zone Adjustment

1. Press ZONE and set at zone adjustment mode.
2. Press POSITION + and − keys to select part to be adjusted.
3. Use arrow keys ◀ ▶ ▲ ▼ to adjust line distortion near cursor.



WHITE BALANCE Adjustment by Maintenance Man

<Preparations>

① Remove Commander cover.
② Press TEST for more than 5 sec.
③ Screen display will change to service man mode display.
④ Press arrow key ▲.

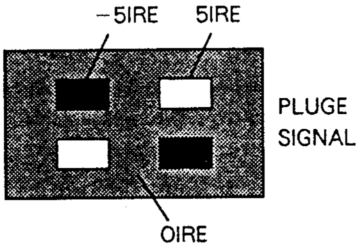
You are now in the service man mode.

1. G2VR Adjustment

① Input VIDEO signal.
② Set color temperature at 9300° K,
③ Press BIAS and set R, G, B, bias data at
R : "128"
G : "128"
B : "128"
④ Press GAIN and set R, G, B gain data at
R : " 30"
G : "103"
B : "230"
⑤ Press RESET and set CONT 80% BRT 50%.
⑥ Press TEST and display pluge signal on screen.

⑥' Short-circuit CF2 board CF2-3 connector (2P) ①－②.

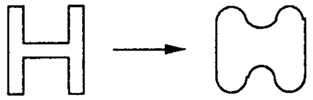
⑦ Adjust R, G and B brightness by turning G2VR as follows.



* Adjust until ＋5IRE is a little brighter than the background (OIRE), and the background is the same brightness as －5IRE.
⑧ End short-circuiting at ⑥'.

2. Blue G4 Adjustment

① Set at No-Signal state. (To set at fH=34KHz)
② Press PAGE and set color temperature at 6,500° K.
③ Press GAIN and set blue gain data at maximum.
④ Press BIAS and set blue bias data at "128".
⑤ Press RESET.(To set at CONT : 80, BRT : 50)
⑥ Press TEST and display "H" pattern.
⑦ Cut-off green and red.
⑧ Turn focus pack blue focus VR to the right from the just focus point, and set so that 'H' pattern can be distinguished.



3. 9,300° K Adjustment

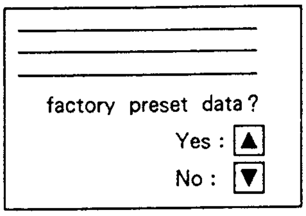
① Input video signal.(100IRE white)
② Press PAGE and set color temperature at 9,300° K.
③ Press BIAS or GAIN and set at bias adjustment mode.
④ Press arrow keys ◀ and ▶ simultaneously, and confirm the following message is displayed.

factory preset data ?
Yes : ▲
No : ▼

⑤ Press arrow key4 ▲. (This will input factory preset data in memory)
⑥ Press BIAS.
⑦ Press TEST until screen is white signal.
⑧ Set CONT : Minimum, BRT : Minimum.
⑨ Use color analyzer and adjust blue and red so that ; x : 0.284±0.015
y : 0.297±0.025.
Do not adjust green bias.
⑩ Press MEMORY.
⑪ Press GAIN.
⑫ Press TEST until screen displays external signal.
⑬ Press RESET and set CONT : 80%, BRT : 50%.
⑭ Use color analyzer and set green and red so that ; x : 0.284 ± 0.015
y : 0.297 ± 0.025
Do not adjust blue again (230).
⑮ Press MEMORY.

4. 6,500° K Adjustment

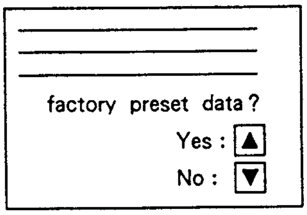
① Input video signal.
② Press PAGE and set color temperature at 6,500° K.
③ Press BIAS or GAIN and set at bias adjustment mode.
④ Press arrow keys ◀, ▶ simultaneously and confirm the following message is displayed.


factory preset data ?
Yes : ▲
No : ▼

⑤ Press arrow ▲ key.(This will input factory preset data in memory)
⑥ Press BIAS.
⑦ Press TEST until screen is blank.
⑧ Set CONT : Minimum, BRT : Minimum
⑨ Use color analyzer and adjust blue and red so that ; x : 0.313±0.015
y : 0.329 ± 0.015
Do not adjust green bias.
⑩ Press MEMORY.
⑪ Press GAIN.
⑫ Press TEST until screen displays external signal.
⑬ Press RESET and set CONT : 80%, BRT : 50%.
⑭ Use color analyzer and adjust green and red so that ; x : 0.313 ± 0.015
y : 0.329±0.015
Do not adjust blue again (230).
⑮ Press MEMORY.

5. 3,200° K Adjustment

① Input video signal.
② Press PAGE and set color temperature at 3,200° K.
③ Press BIAS or GAIN and set at bias adjustment mode.
④ Press arrow keys ◀, ▶ simultaneously and confirm the following messages are displayed.


factory preset data ?
Yes : ▲
No : ▼

⑤ Press arrow key ▲.(This will input factory preset data in memory)
⑥ Press BIAS.
⑦ Press TEST until screen is blank.
⑧ Set CONT : Minimum, BRT : Minimum.
⑨ Use color analyzer and adjust blue and red so that ; x : 0.423±0.015
y : 0.399 ± 0.015
Do not adjust green gain.
⑩ Press MEMORY.
⑪ Press GAIN.
⑫ Press TEST until screen displays external signal.
⑬ Push RESET and set CONT : 80, BRT : 50.
⑭ Use color analyzer and adjust red and blue so that : x : 0.428 ± 0.015
y : 0.399±0.015
Do not adjust green again (140).
⑮ Press MEMORY.

6. Preset Adjustment

① Press PAGE and preset color degree.
② Press GAIN and set R, G, B gain data at 6,500° K data.
③ Press BIAS and set R, G, B bias data at 6,500° K data.
④ Press MEMORY.
⑤ Press PAGE and after setting color temperature at 6,500° K, press MEMORY .

SECTION 5
SAFETY RELATED ADJUSTMENT

When exchanging ◪ part check HV hold-down circuit, HV regulation circuit, LOW B protector circuit and beam current protector circuit.

⧓ R33, R34 [HV hold-down] PA board
◪ IC2, Q7, D9, D12, C13, R20, R21, R22, R23, R24, R32, R33, R34, R35, R36, R82, HV BLOCK, PA mount

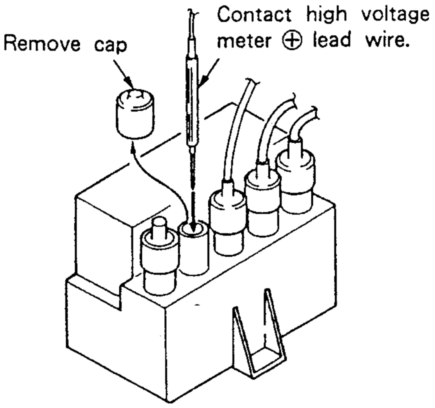
⧓ R41, R42 [HV regulation] PA board
◪ IC1, IC6, IC7, IC8, IC9, D13, C16, R37, R38, R39, R40, R41, R42, R53, R55, R56, R58, R59, R129, X1, HV BLOCK, PA mount, PB mount

⧓ R29, R30 [LOW B protector] PA board
◪ IC1, IC3, IC5, Q8, D4, D5, D10, D11, R9, R10, R26, R28, R29, R30, R31, R88, R95, PA mount

⧓ R1, R4 [Beam current protector] PA board
◪ IC2, IC3, IC5, Q1, Q2, Q7, Q8, D4, D5, D9, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R20, R21, R22, R23, R24, R43, R44, R45, R46, R47, R82, R88, R119, R120, R121, R122, R199 (DA board), PA mount, PB mount

⧓ R33, R34 : HV Hold-down

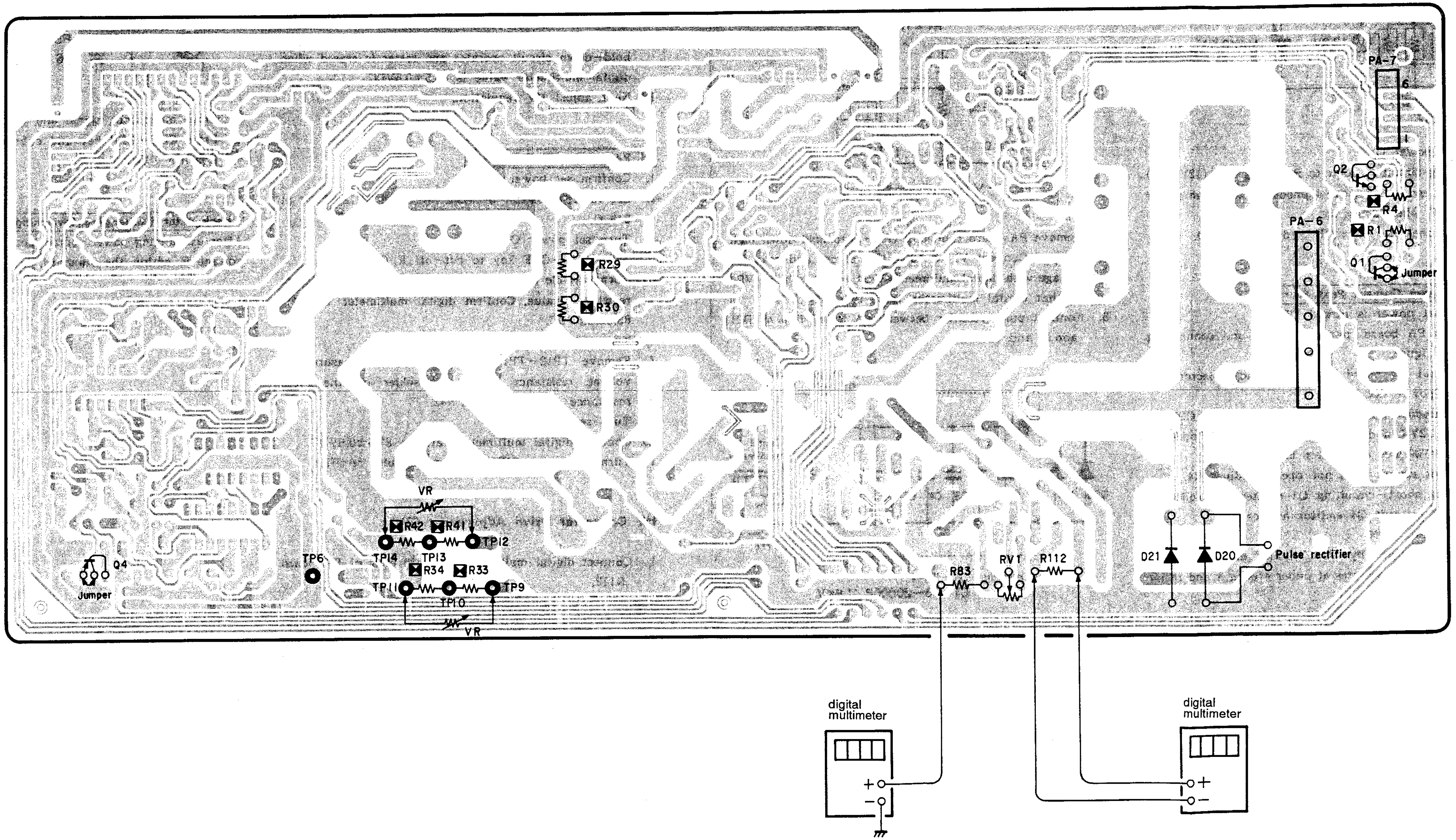
1. Confirm set power is turned OFF.
2. Connect high voltage meter ⊕ to HV filter vacant terminal and ⊖ to chassis earth.
3. Remove resistance mounted between PA board TP9 –TP11. Connect variable resistor and set at 47K Ω.
4. Remove resistance mounted between PA board TP12 –TP14. Connect variable resistor and set at 27K Ω.
5. Turn RV1 fully counter clockwise.
6. Turn set power ON.
7. Input monoscope signal, and set CONTR and BRT at maximum.
8. Turn variable resistor between TP12–TP14 to change resistance value and adjust high voltage to around 34.0±0.3KV.
9. Turn variable resistor between TP9–TP11 to change resistance value, adjust high voltage to around 34.0±0.3KV, and confirm hold-down circuit operates and raster disappears.
10. Turn set power OFF.
11. Remove variable resistor between TP9–TP11. Measure the volume resistance value and solder on the same amount of resistance to R33, R34.
12. Next, slightly raise volume resistance value between TP12–TP14.
13. Turn set power ON.
14. Turn variable resistor between TP12–TP14 again and raise high voltage. Confirm hold-down circuit operates at 34.0±0.3KV and raster disappears.
15. Next, adjust HV regulation.



⧓ R41, R42 : HV regulation

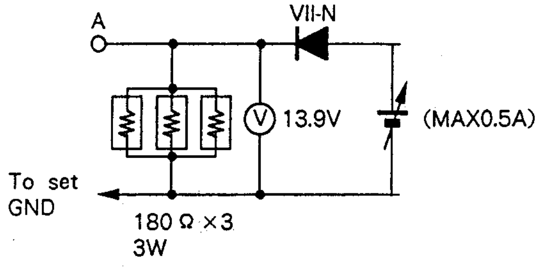
1. Confirm set power is OFF.
2. Connect high voltage meter ⊕ to HV filter vacant terminal and ⊖ to chassis earth.
3. Set variable resistor between PA board TP12–TP14 to 27K Ω.
4. Turn set power ON.
5. Press CUT–OFF key and cut–off R, G, B.
6. Turn variable resistor between TP12–TP14 to change resistance value and adjust high voltage to around 33.0±0.3KV.
7. Turn set power OFF.
8. Remove variable resistor between TP12–TP14. Measure the volume resistance value and solder on the same amount of resistance to R41, R42.
9. Turn set power OFF.
10. Confirm high voltage meter reads 33.0±0.3KV.
11. Turn set power OFF and remove high voltage meter.

PA BOARD


PA-7
6
Q2
R4
R1
PA-6
Q1
Jumper
R29
R30
VR
R42
R41
TP14
TP13
TP12
TP6
R34
R33
TP11
TP10
TP9
VR
Q4
Jumper
R83
RV1
R112
D21
D20
Pulse rectifier
digital multimeter
+
−
digital multimeter
+
−

R29, R30 : LOW B Protector

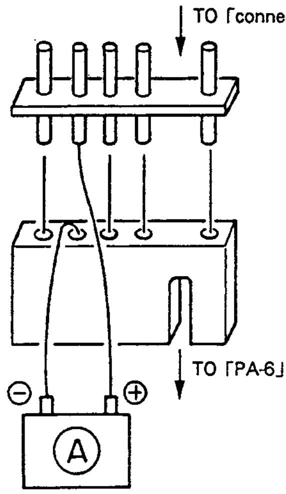
- Prepare jig circuit as shown in figure.
- Adjust until high voltage meter shows 13.9V.



1. Turn set power ON.
2. Contact jig circuit A point to PA board TP6 (12V line) for 0.5−1 sec. and remove immediately. Confirm power turns OFF when doing so.
3. If power does not turn OFF, adjust R29, R39.

R1, R4 : Beam Current Protector

1. Confirm set power is turned OFF.
2. Disconnect PA board connector PA−6 and connect jig shown in figure.
3. Short circuit PA board Q1 emitter and collector.
4. Turn set power ON.
5. Input monoscope signal, send beam current by CONTR, BRT and G2VR, and confirm protector circuit operates at under 4700 μA and raster is erased.
6. If protector circuit does not operate, adjust R4.
7. Remove jig short−circuiting Q1 emitter and collector.
8. Next, short−circuit Q4 emitter and collector.
9. Turn set power ON.
10. Send beam current by CONTR, BRT and G2VR, and confirm protector operates at under 4700 μA and raster is erased.
11. When protector does not operate, adjust R1.
12. Remove jig short−circuiting Q4 emitter and collector.



To Check without Using High Voltage Meter

R33, R34 : HV Hold−down

1. Use voltage dividing network shown in figure to calibrate detection unit.

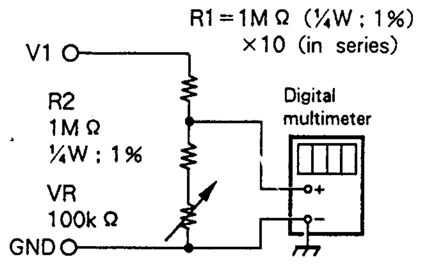
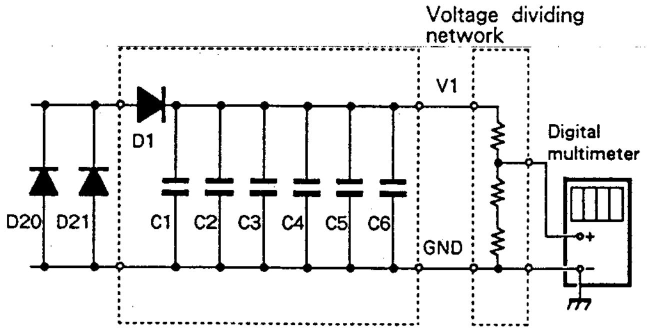


Fig. 1 : Voltage dividing network

2. Remove PA board connector (PA−7) to hold down high voltage. Connect V1 to 100V line of set and read V1 voltage with digital multimeter. Next, adjust volume (VR) so that digital multimeter value is 1/10 of V1.
3. Connect pulse rectifier between PA board D20 or D21 anode and cathode.



Pulse rectifier D1~VII-N
C1~C6~20000P/1.6KV

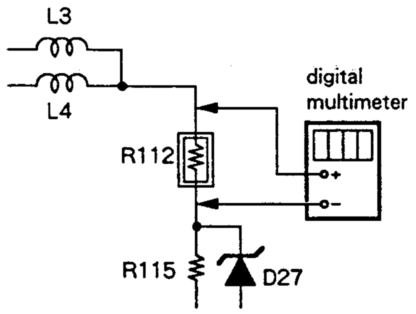
4. Confirm set power is turned ON.
5. Confirm pulse rectifier and voltage dividing network are connected.
6. Remove resistance mounted between PA board TP9−TP11, connect volume and set at 47KΩ.
7. Remove resistance mounted between TP12−TP14, connect volume and set at 27KΩ.
8. Turn RV1 fully counter clockwise.
9. Turn set power ON.
10. Input monoscope signal, and set CONTR and BRT at maximum.
11. Turn variable resistor between TP12−TP14 and adjust until digital multimeter value is 96.5±0.5VDC.
12. Turn variable resistor between TP9−TP11, and confirm hold−down circuit operates and luster is erased when digital multimeter is 96.5±0.5VDC.
13. Turn set power OFF.
14. Remove volume between TP9−TP11. Measure the volume resistance value and solder on the same resistance volume to R33, R34.
15. Slightly raise volume resistance between TP12−TP14.
16. Turn set power ON.
17. Turn volume between TP12−TP14 and confirm hold−down circuit operates and raster is erased when digital multimeter value is 96.5±0.5VDC.
18. Next, adjust HV regulation.

R41, R42 : HV Regulation

1. Confirm set power is OFF.
2. Set variable resistor between PA board TP12−TP14 at 27KΩ.
3. Turn set power ON.
4. Press CUT−OFF key to cut−off R, G, B.
5. Turn variable resistor between TP12−TP14 and change resistance value. Confirm digital multimeter value is 83.5±0.5VDC.
6. Turn set power OFF.
7. Remove TP12−TP14 variable resistor. Measure the volume resistance value and solder on the same resistance volume to R41, R42.
9. Turn set power ON.
10. Confirm digital multimeter value is 83.5±0.5VDC.
11. Turn set power OFF and remove pulse rectifier.

HV Converter Drive Adjustment (RV1)

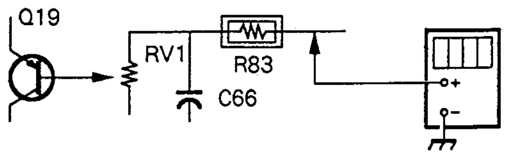
1. Connect digital multimeter on both ends of PA board R112.



2. Turn set power ON.
3. Press Commander CUT−OFF R G B and cut off R, G, B.
4. Adjust RV1 to 10.5±0.5V.
5. Turn set power OFF.

Confirming +B MAX Voltage

1. Confirm set power is turned OFF.
2. Connect digital multimeter to PA board R83 and GND.



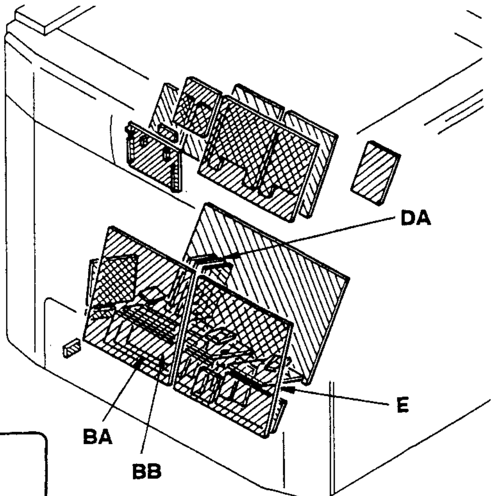
3. Input monoscope signal and turn set power ON.
4. Press CUT−OFF key and cut−off R, G, B.
5. Confirm 100±1V.

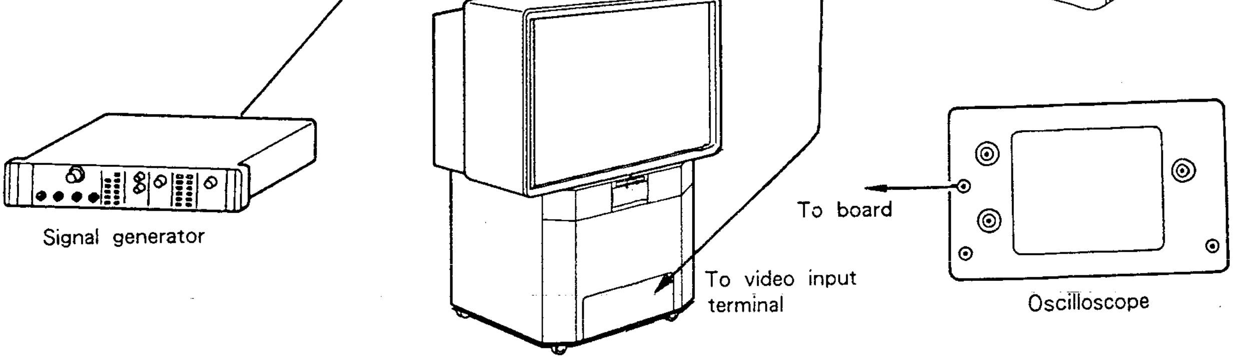
Check after Exchanging Switching Regulator

After exchanging power source block, check that +B MAX voltage is within the standard.

SECTION 6
CIRCUIT ADJUSTMENTS

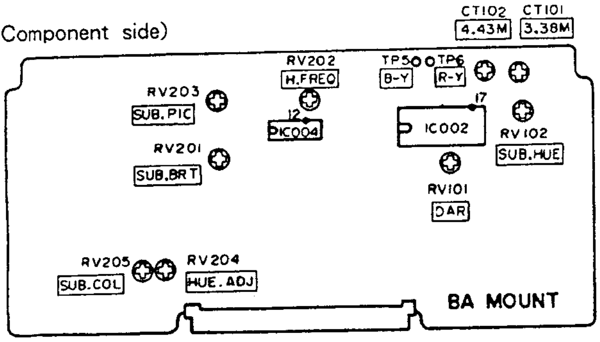
Note :
Fit DY (deflection yoke) tightly to picture tube when conducting basic adjustment, electric adjustment or exchanging picture tube.




Color bar signal
Signal generator
To board
To video input terminal
Oscilloscope

6-1. BA Board Adjustment

(Component side)

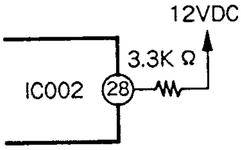

CT102
4.43M
CT101
3.38M
RV202
H.FREQ
TP5
TP6
B-Y
R-Y
RV203
SUB.PIC
RV201
SUB.BRT
12
IC004
17
IC002
RV102
SUB.HUE
RV101
DAR
RV205
SUB.COL
RV204
HUE.ADJ
BA MOUNT

H. FREQ Adjustment (RV202)

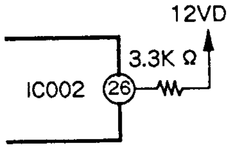
1. Ground IC004 pin ⑫.
2. Insert 10 : 1 probe in TP7 and connect frequency counter.
3. Adjust RV202 to 16400±50Hz.

REF. OSC Adjustment (CT101, CT102)

1. Input PAL color bar.
2. Connect 3.3K Ω to IC002 pin ㉘, apply 12VDC and set at PAL forced MODE.


12VDC
3.3K Ω
IC002
28

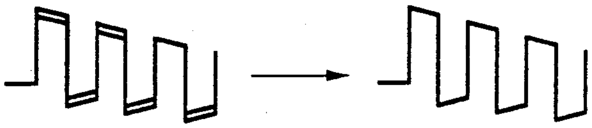
3. Ground IC002 pin ⑰ and turn color-killer OFF.
4. Adjust CT102 until screen movement slows.
5. Disconnect IC002 pin ⑰ grounding.
6. Input NTSC3.58 color bar.
7. Connect 3.3K Ω to IC002 pin ㉘, apply 12VDC and set at NTSC3.58 forced MODE.


12VDC
3.3K Ω
IC002
26

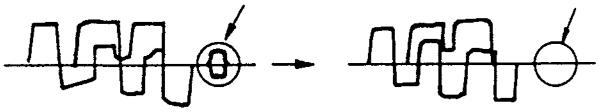
8. Ground IC002 pin ⑰ and turn color-killer OFF.
9. Adjust CT101 until screen movement slows.
10. Disconnect 3.3K Ω connected to IC.

1H DELAY LINE Adjustment

1. Input PAL color bar.
2. Connect oscilloscope to TP−5 and view wave form in H block.


(Before adjustment) (After adjustment)

3. Adjust L103 and minimize double line part of wave.
4. Input PAL special color bar.
5. Adjust RV101 until wave ANTIPAL part is at O−level.


(Before adjustment) (After adjustment)

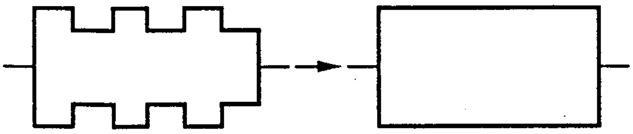
- RV101 and L103 influence each other. Repeat adjustment until both conditions are satisfied.

SECAM ID Adjustment (L102)

1. Input SECAM color bar.
2. Connect digital multimeter to TP4.(input impedance over 50M Ω)
3. Adjust L102 level to maximum.

BELL Filter Adjustment (L101)

1. Input SECAM color bar.
2. Connect oscilloscope to TP3 and view wave form of H block.
3. Adjust L101 until wave is flat.


(Before adjustment) (After adjustment)

※ Track L101 and L102.

SECAM DISCRI Adjustment (L104, L105)

1. Input SECAM color bar.
2. Connect oscilloscope to TP6 and view wave form of H block.

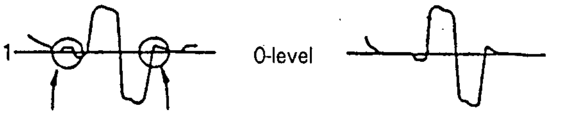
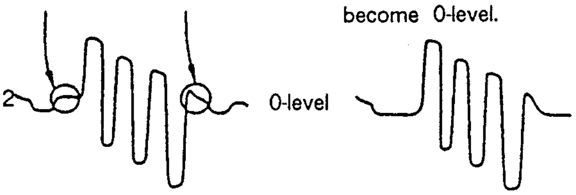
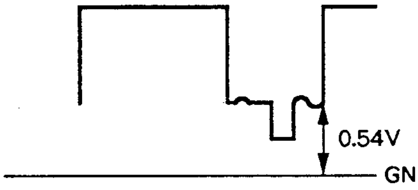
Fig. 1


Fig. 2


3. Adjust L104 until white and black part of TP6 wave become O−level.(Fig. 1)
4. Connect oscilloscope to TP5 and view wave form of H block.
5. Adjust L105 until white and black part of TP5 wave become O−level (Fig. 2).

SUB BRIGHT Adjustment (RV201)

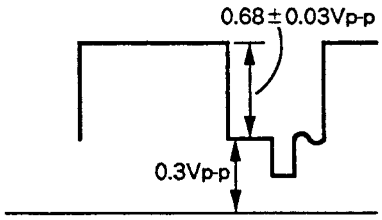
1. Input blank signal (100IRE).
2. Connect oscilloscope to BB board TP5 and view wave form of H block.



3. Adjust RV201 until pedestal level is 0.54V.

SUB PICTURE Adjustment (RV203)

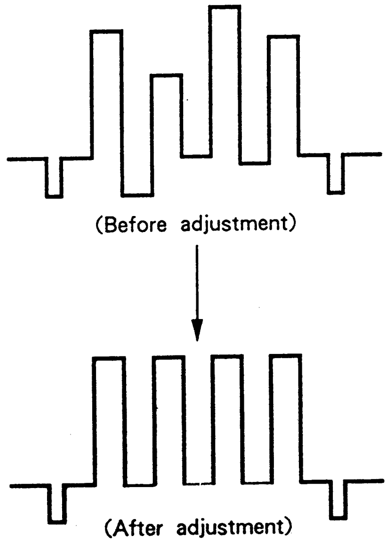
1. Input blank signal (100IRE).
2. Connect oscilloscope to BB board TP5 and view wave form of H block.



3. Adjust RV203 until pedestal to peak is 0.68±0.03Vp-p.

HUE, SUB COLOR, SUB HUE Adjustment (RV204, RV205, RV102)

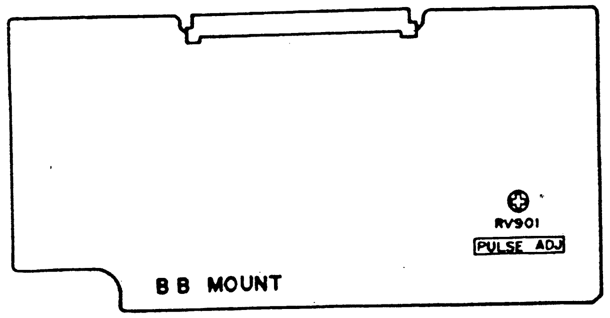
1. Input PAL color bar signal.
2. Connect oscilloscope to TP10 and view wave form of H block.
3. Adjust RV204 (HUE) and RV205 (SUB COL) until wave is flat.



4. Input NTSC3.58 color bar.
5. Adjust RV102 (SUB HUE) until wave is flat.

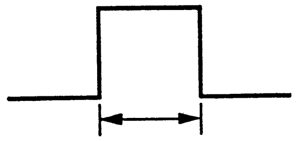
6-2. BB Board Adjustment

(Component side)



PULSE Adjustment (RV901)

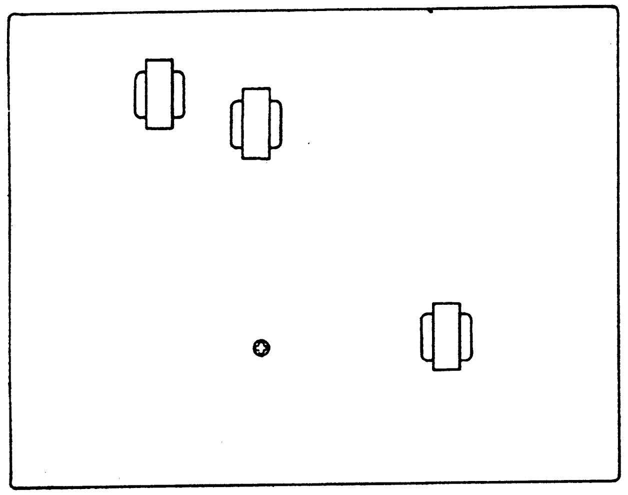
1. Input monoscope signal to G of R, G, B input.
2. Connect oscilloscope to IC413 pin ⑥.
3. Adjust RV901 so that pulse width is 0.4±0.05 μ S.



0.4±0.05 μ S

6-3. E Board Adjustment

(Component side)

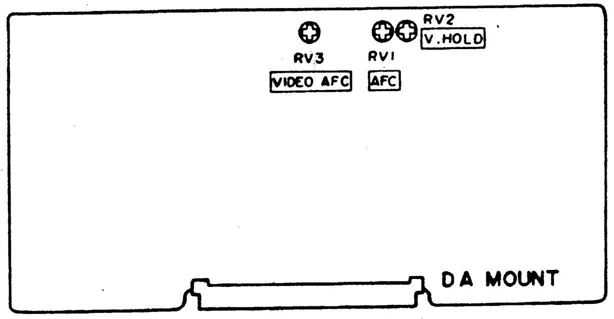


H.SIZE Adjustment (RV104)

1. Input monoscope signal.
2. Press remote commander [SIZE] key, and then arrow key ▶ to set H. SIZE at maximum.
3. Turn RV104 and adjust to frame 15.

6-4. DA Board Adjustment

(Component side)



AFC Adjustment (RV1)

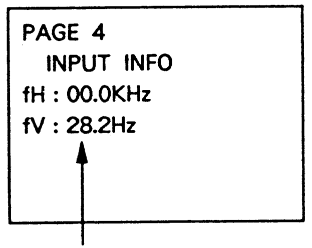
1. Input approximately 30KHz R, G, B signal.
2. Turn RV1 full clockwise.
3. Press S1 (HD OFF) switch and set at image free running state.
4. Turn RV1 counter clockwise a little at a time and stop image.
5. Connect TP2 to frequency counter.
6. Read frequency counter indicated value while pressing S1 switch.
   The value is f1.
7. Turn RV1 full counter clockwise.
8. Press S1 switch and set at image free running state.
9. Turn RV1 to clockwise a little at a time and stop image.
10. Read frequency counter indicated value while pressing S1 switch.
    The value is f2.
11. Adjust $\frac{f1+f2}{2}$ ±200Hz value with RV1.

Video AFC Adjustment (RV3)

1. Input video signal.(fH=15.75KHz, FV=60Hz)
2. Turn RV3 (video AFC) full clockwise.
3. Press S1 (HD OFF) switch and set at image free running state.
4. Turn RV3 to left a little at a time and stop image.
5. Connect frequency counter to TP2.
6. Read frequency counter indicated value while pressing S1 switch.
   The value is f1.
7. Turn RV3 full counter clockwise.
8. Press S1 and set at image free running state.
9. Turn RV3 right a little at a time and stop image.
10. Read frequency counter indicated value while pressing S1.
    The value is f12.
11. Adjust to $\frac{f1+f2}{2}$ ±200Hz with RV3.

V HOLD Adjustment (RV2)

1. Set at No−signal state.
2. Press remote commander PAGE key and display PAGE4.
3. Press S2 (V SYNC OFF).
4. Adjust until screen display fV is 28.0±0.1Hz with RV2 (V HOLD).



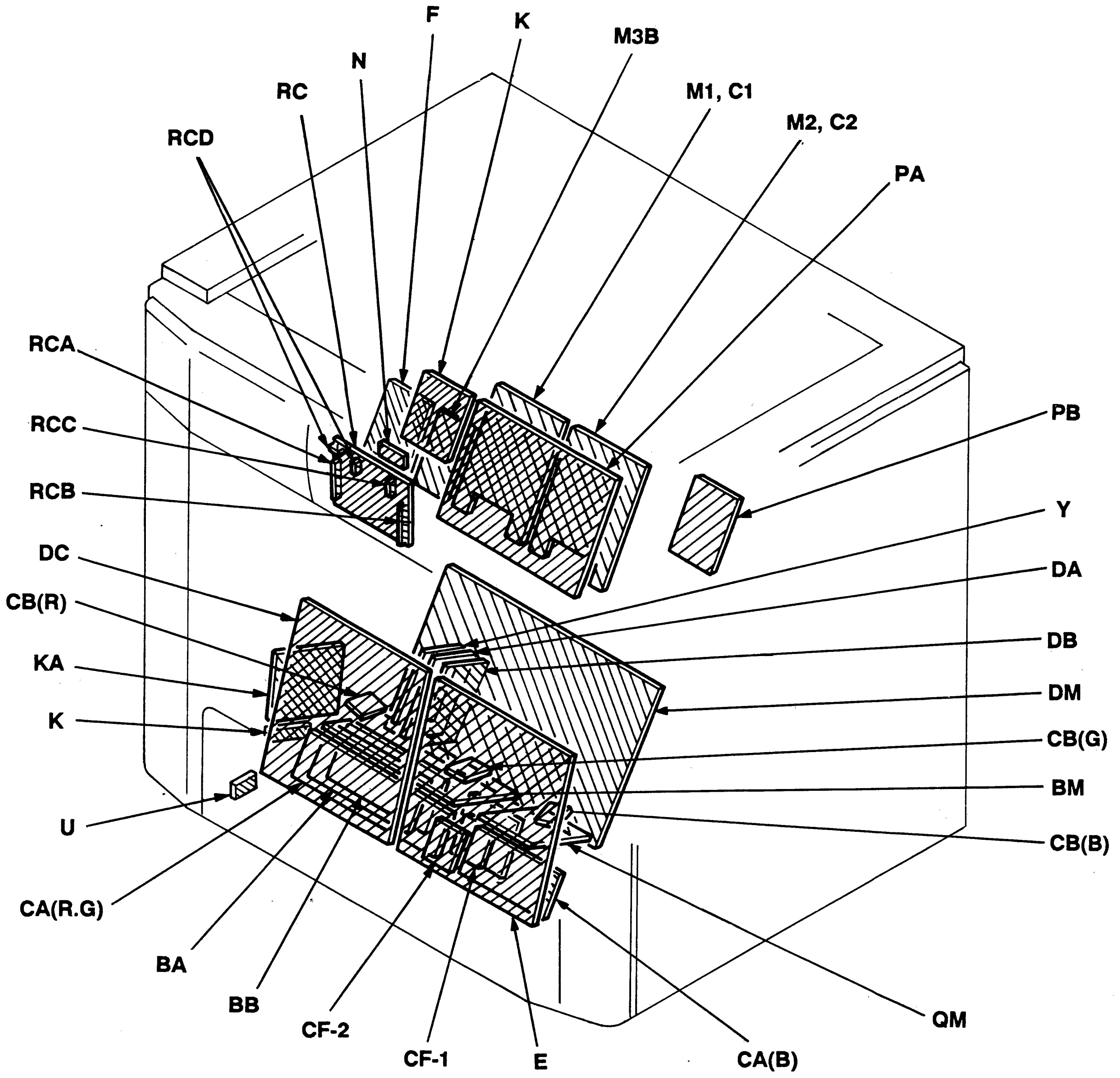
PAGE 4
INPUT INFO
fH : 00.0KHz
fV : 28.2Hz

Adjust to RV2 28.0±0.1Hz

7-1. CIR

SECTION 7
DIAGRAMS

7-1. CIRCUIT BOARD LOCATION



7-2. QUICK REFERENCE

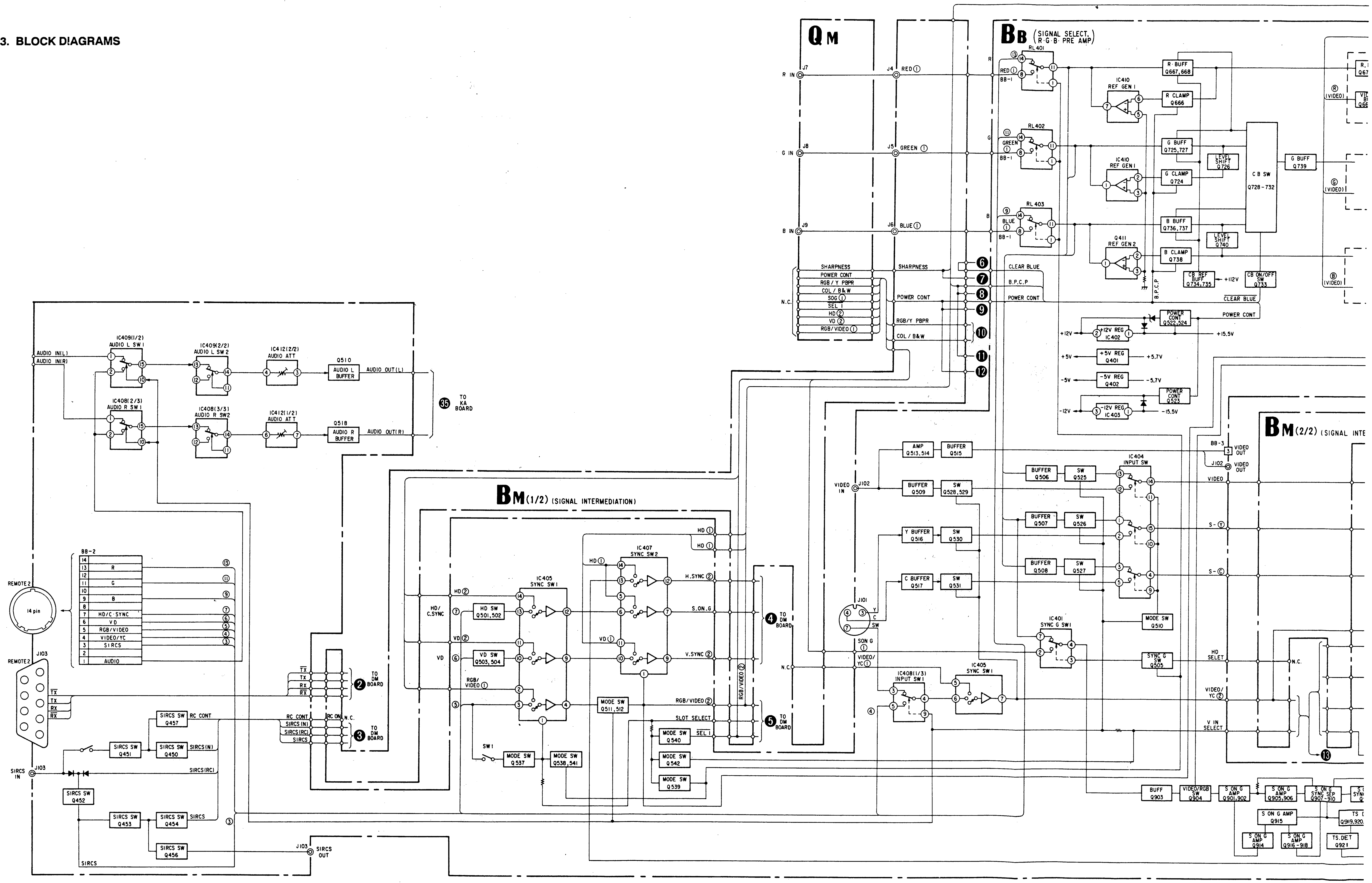
BOARD ITEM	BA	BB	BM	QM	CA(B)	CA(RG)	CB(R)	CB(G)	CA(B)	CF-1
CIRCUIT BOARD GUIDE TO OPERATION	59	64	–	–	–	–	–	–	–	–
ADJUSTMENT	99	101	–	–	–	–	–	–	–	–
BLOCK DIAGRAM	107	–	105	106	115	115	116	116	116	115
PRINTED WIRING BOARD	121	135	189	189	193	199	203	203	204	206
SCHEMATIC DIAGRAM	125	131	186	188	191	196	202	202	203	205
ELECTRICAL PARTS LIST	254	258	254	266	271	268	267	268	268	267

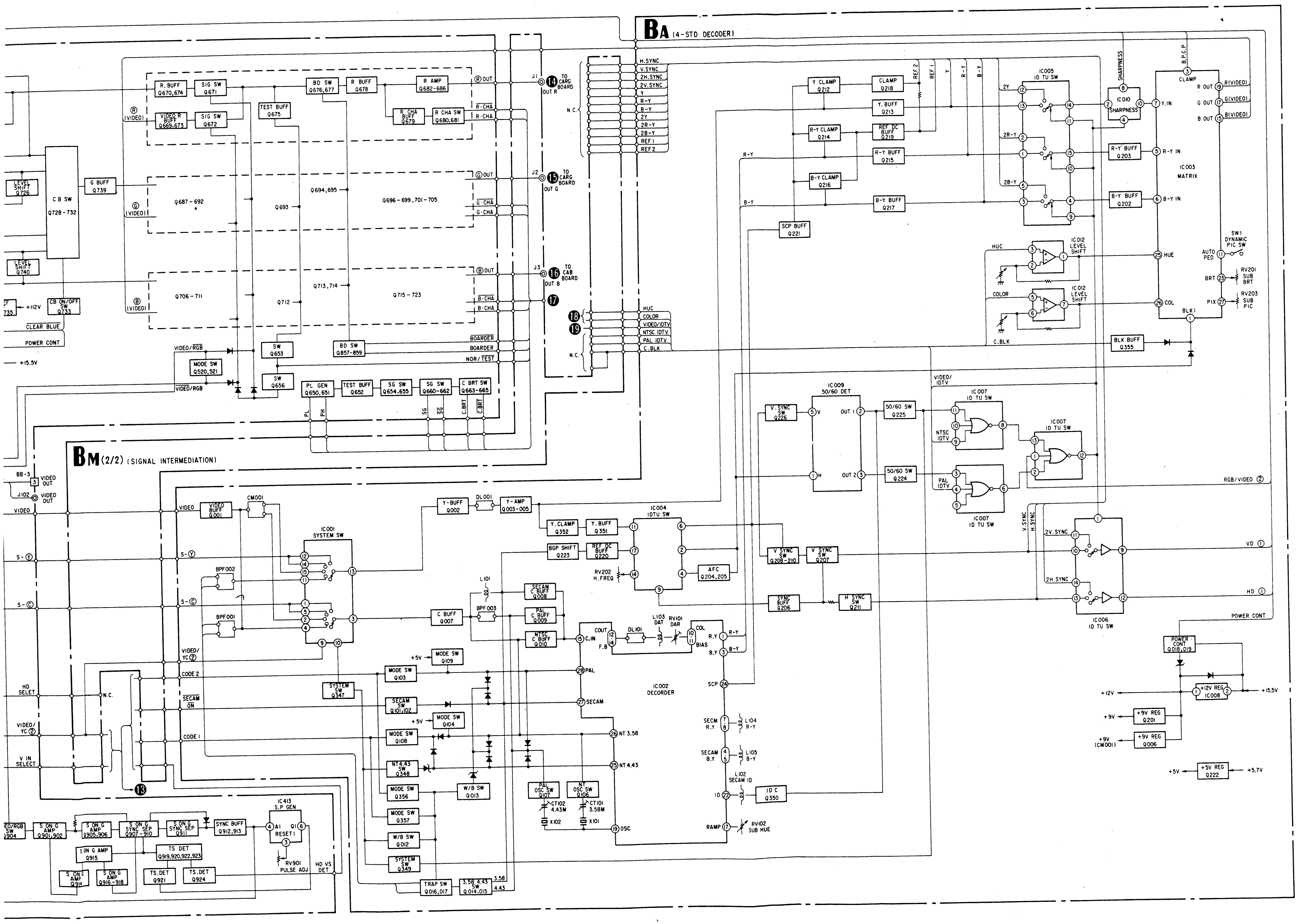
BOARD ITEM	CF-2	DA	DB	DC	DM	E	F	KA	KB	N
CIRCUIT BOARD GUIDE TO OPERATION	–	72	76	78	–	83	–	85	87	–
ADJUSTMENT	–	101	–	–	–	101	–	–	–	–
BLOCK DIAGRAM	115	110	111	112	109	113	114	114	115	109
PRINTED WIRING BOARD	206	145	155	167	175	183	209	210	211	211
SCHEMATIC DIAGRAM	205	140	151	161	169	177	208	207	208	208
ELECTRICAL PARTS LIST	267	273	278	282	273	286	266	291	292	292

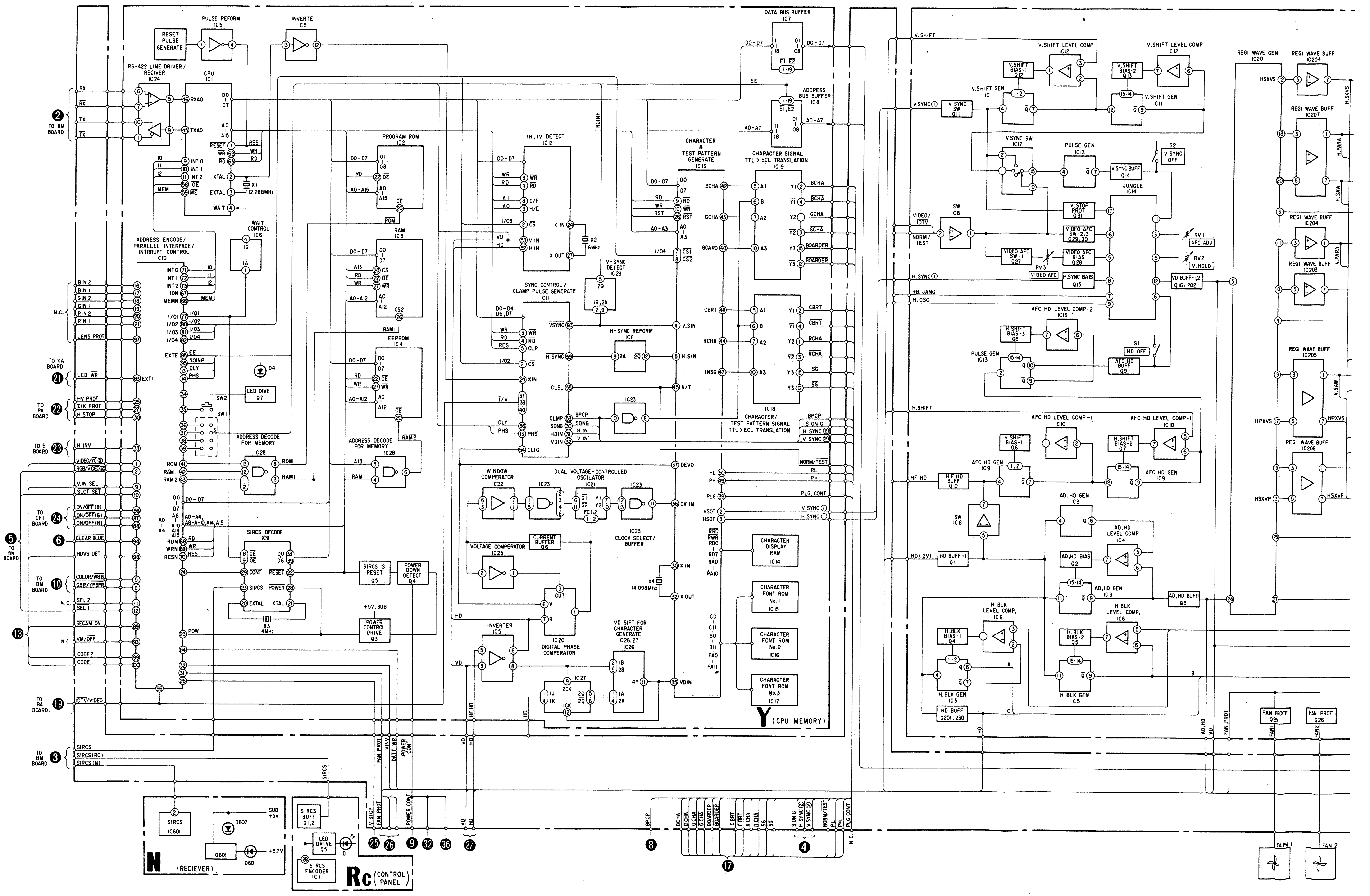
BOARD ITEM	U	K	PA	PB	RC	RCA	RCB	RCC	RCD	X
CIRCUIT BOARD GUIDE TO OPERATION	–	–	–	81	107	–	–	–	–	–
ADJUSTMENT	–	–	–	–	–	–	–	–	–	–
BLOCK DIAGRAM	114	115	115	116	–	–	–	–	–	–
PRINTED WIRING BOARD	209	214	212	212	229	230	230	229	229	231
SCHEMATIC DIAGRAM	208	217	216	215	227	227	227	227	227	
ELECTRICAL PARTS LIST	290	290	264	263	266	267	267	267	267	295

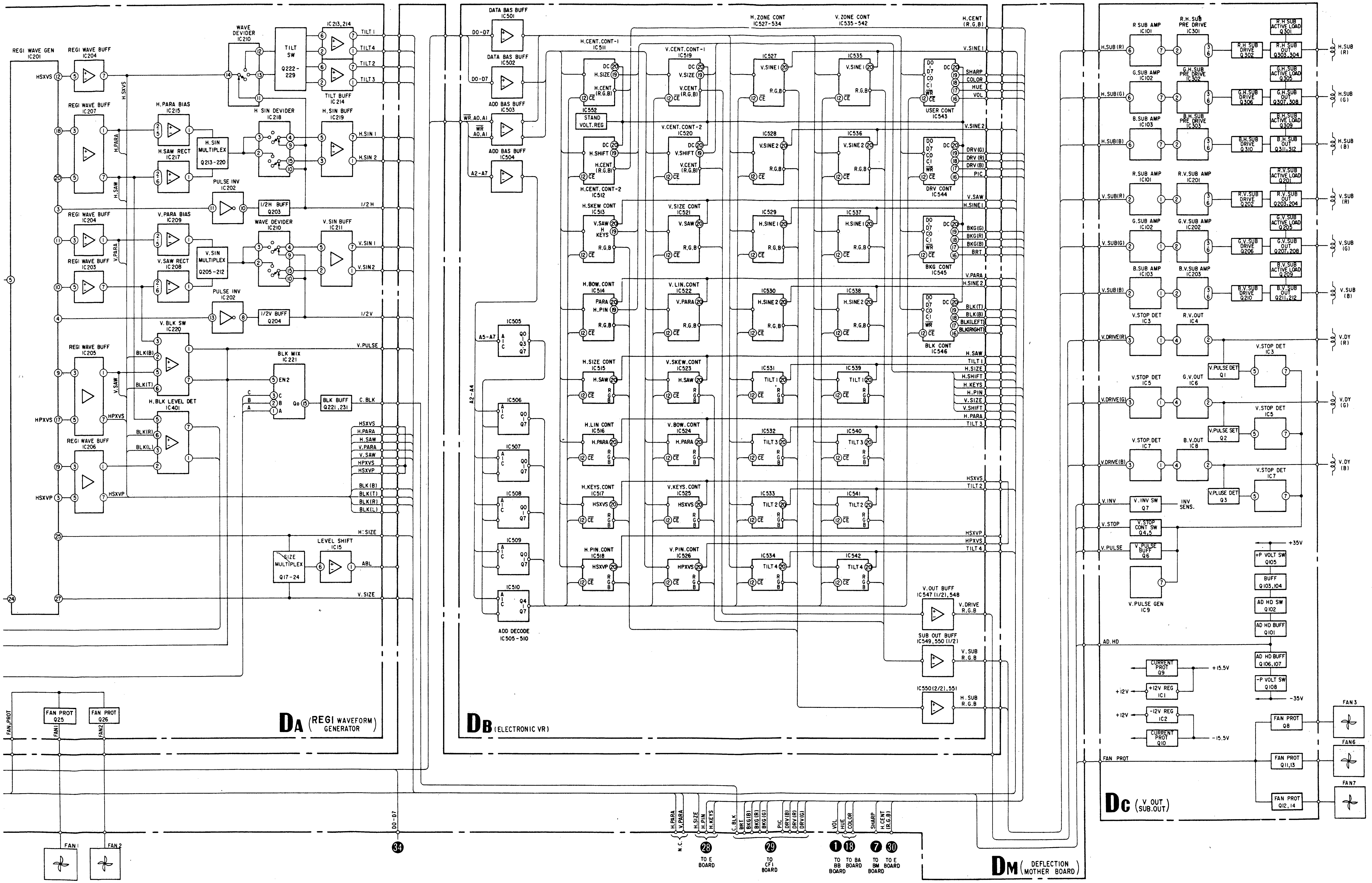
BOARD ITEM	Y	C1	C2	M1	M2	M3B
CIRCUIT BOARD GUIDE TO OPERATION	80	88	88	88	88	–
ADJUSTMENT	–	–	–	–	–	–
BLOCK DIAGRAM	109	113	114	113	114	113
PRINTED WIRING BOARD	223	239	245	237	243	239
SCHEMATIC DIAGRAM	219	235	241	234	240	234
ELECTRICAL PARTS LIST	293	297	299	295	298	–

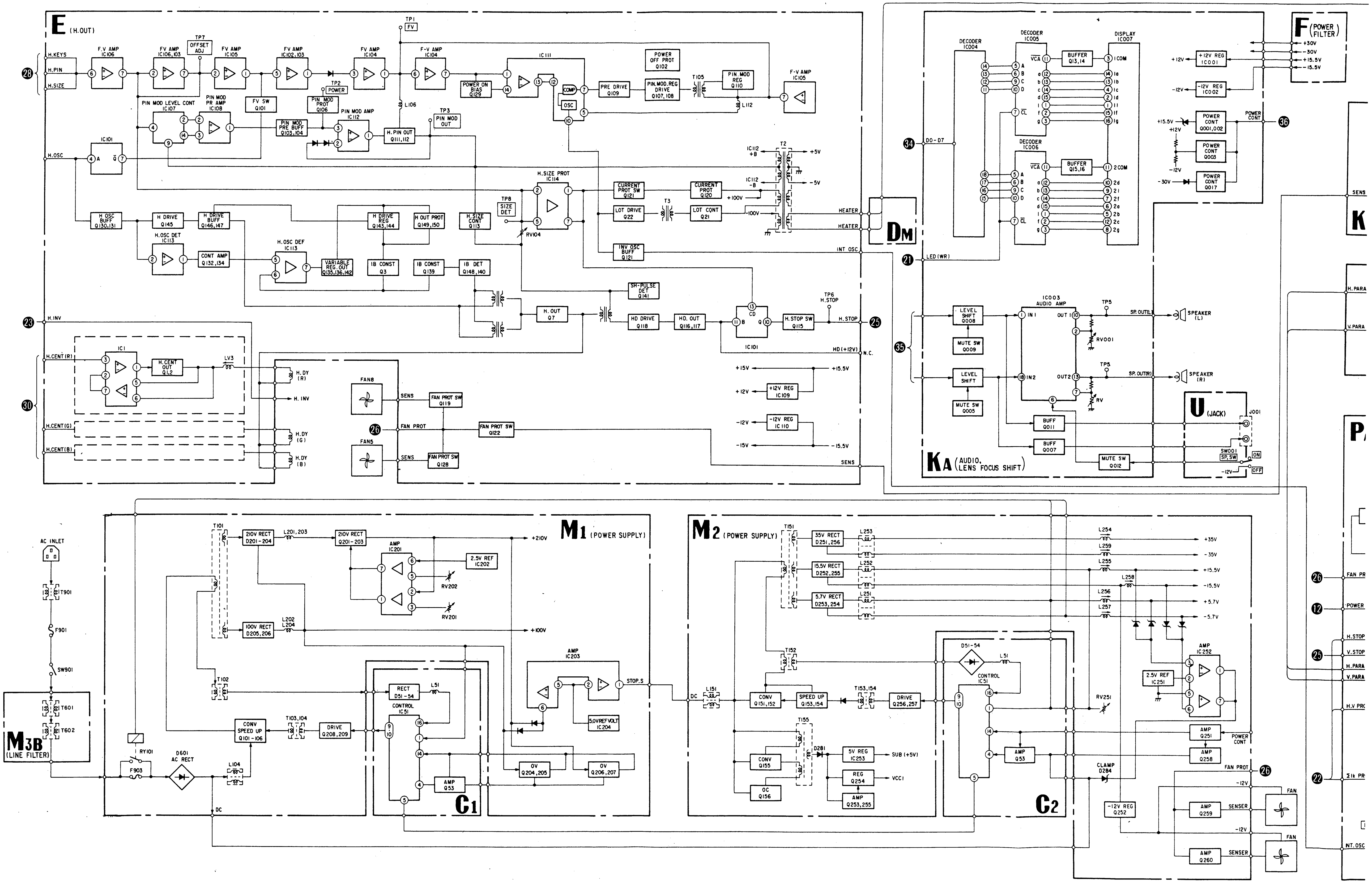
7-3. BLOCK DIAGRAMS

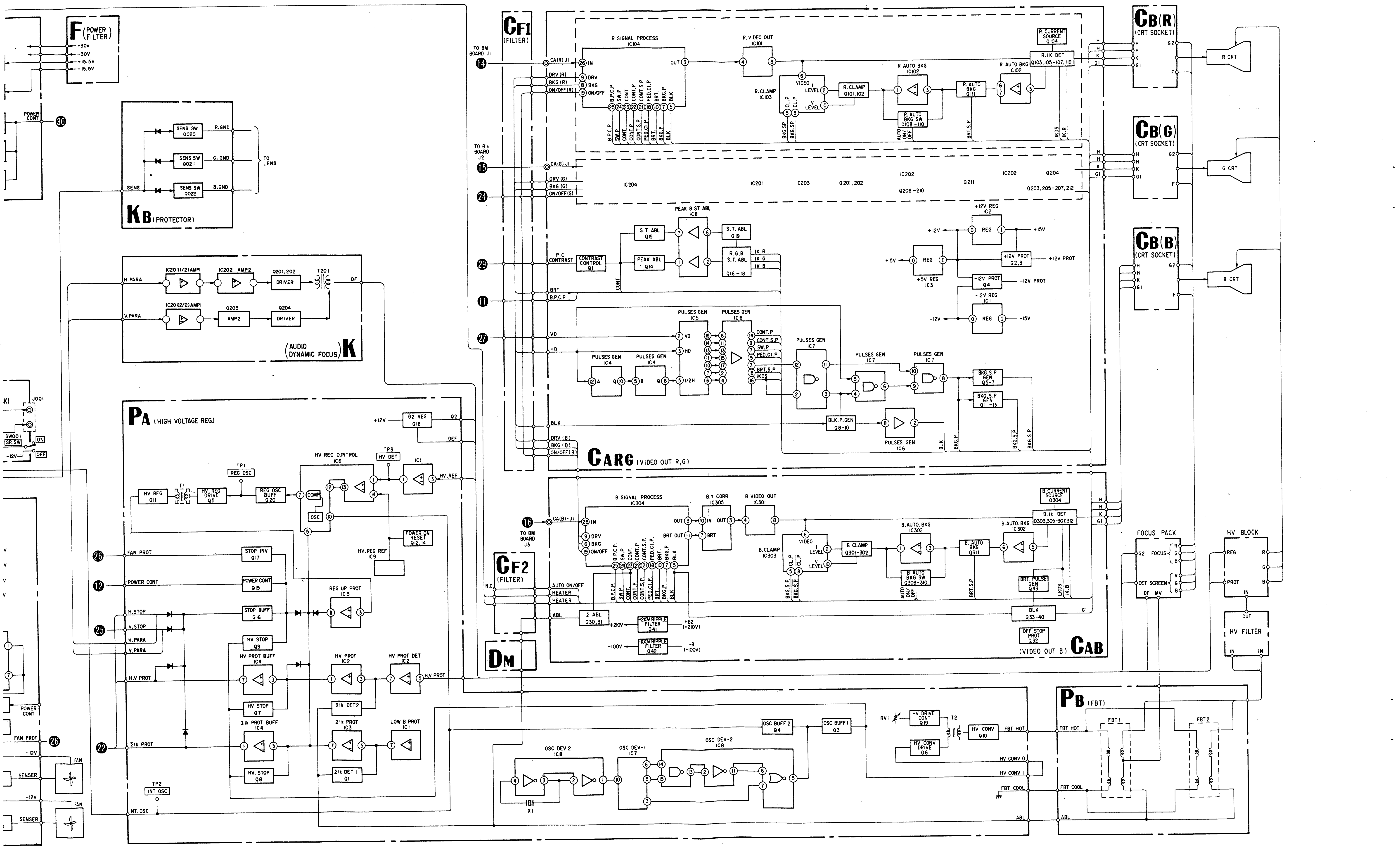

QM
R IN J7
G IN J8
B IN J9
J4 RED ①
J5 GREEN ①
J6 BLUE ①
SHARPNESS
POWER CONT
RGB / Y PBPR
COL / B&W
SOG ①
SEL I
HD ②
VD ②
RGB / VIDEO ①
N.C.
BB (SIGNAL SELECT, R·G·B PRE AMP)
RL401
RL402
RL403
IC410 REF GEN I
Q411 REF GEN 2
R BUFF Q667, 668
R CLAMP Q666
G BUFF Q725, 727
G CLAMP Q724
B BUFF Q736, 737
B CLAMP Q738
LEVEL SHIFT Q726
LEVEL SHIFT Q740
C B SW Q728-732
G BUFF Q739
CB REF BUFF Q734, 735
CB ON/OFF SW Q733
+112V
CLEAR BLUE
B.P.C.P
POWER CONT
POWER CONT Q522, 524
+12V REG IC402
+5V REG Q401
-5V REG Q402
POWER CONT Q523
-12V REG IC403
+12V
+5V
-5V
-12V
+15.5V
+5.7V
-5.7V
-15.5V
Ⓡ (VIDEO)
Ⓖ (VIDEO)
Ⓑ (VIDEO)
AUDIO IN(L)
AUDIO IN(R)
IC409(1/2) AUDIO L SW I
IC409(2/2) AUDIO L SW 2
IC412(2/2) AUDIO ATT
Q510 AUDIO L BUFFER
AUDIO OUT(L)
IC408(2/3) AUDIO R SW I
IC408(3/3) AUDIO R SW2
IC412(1/2) AUDIO ATT
Q518 AUDIO R BUFFER
AUDIO OUT(R)
㉟ TO KA BOARD
BM (1/2) (SIGNAL INTERMEDIATION)
HD/ C.SYNC
VD
RGB/ VIDEO ①
HD SW Q501, 502
VD SW Q503, 504
IC405 SYNC SW I
IC407 SYNC SW 2
H.SYNC ②
S.ON.G
V.SYNC ②
HD ①
VD ①
MODE SW Q511, 512
RGB/VIDEO ②
SLOT SELECT
SEL I
MODE SW Q540
MODE SW Q542
MODE SW Q539
SW I
MODE SW Q537
MODE SW Q538, 541
RGB/VIDEO ②
❹ TO DM BOARD
❺ TO DM BOARD
N.C.
BB-2
R
G
B
HD/C·SYNC
VD
RGB/VIDEO
VIDEO/YC
SIRCS
AUDIO
REMOTE 2
14 pin
J103
TX
RX
SIRCS SW Q457
RC CONT
SIRCS SW Q451
SIRCS SW Q450
SIRCS(N)
SIRCS(RC)
SIRCS IN
SIRCS SW Q452
SIRCS SW Q453
SIRCS SW Q454
SIRCS SW Q456
SIRCS
J103 SIRCS OUT
❷ TO DM BOARD
❸ TO DM BOARD
RC CONT
SIRCS(N)
SIRCS(RC)
VIDEO IN J102
AMP Q513, 514
BUFFER Q515
BUFFER Q509
SW Q528, 529
Y BUFFER Q516
SW Q530
C BUFFER Q517
SW Q531
J101
SON G ①
VIDEO/ YC ①
IC408(1/3) INPUT SW I
IC405 SYNC SW I
BUFFER Q506
SW Q525
BUFFER Q507
SW Q526
BUFFER Q508
SW Q527
IC404 INPUT SW
IC401 SYNC G SW I
MODE SW Q510
SYNC G SW Q505
BB-3
J102 VIDEO OUT
VIDEO
S-Ⓨ
S-Ⓒ
HD SELECT
VIDEO/ YC ②
V IN SELECT
N.C.
BM (2/2) (SIGNAL INTE
BUFF Q903
VIDEO/RGB SW Q904
S ON G AMP Q901, 902
S ON G AMP Q905, 906
S ON G SYNC SEP Q907-910
S ON G AMP Q915
S ON G AMP Q914
S ON G AMP Q916-918
TS.DET Q921
⑬


BA (4-STD DECODER)
BM (2/2) (SIGNAL INTERMEDIATION)
R.BUFF Q670,674
SIG SW Q671
VIDEO R BUFF Q669,673
SIG SW Q672
TEST BUFF Q675
BD SW Q676,677
R BUFF Q678
R AMP Q682-686
R CHA BUFF Q679
R CHA SW Q680,681
R OUT
R-CHA
J1
14
TO CARG BOARD
OUT R
Q687-692
Q693
Q694,695
Q696-699,701-705
G OUT
G-CHA
J2
15
TO CARG BOARD
OUT G
Q706-711
Q712
Q713,714
Q715-723
B OUT
B-CHA
J3
16
TO CAB BOARD
OUT B
17
18
19
N.C.
LEVEL SHIFT Q726
C B SW Q728-732
G BUFF Q739
LEVEL SHIFT Q740
CB ON/OFF SW Q733
+112V
CLEAR BLUE
POWER CONT
+15.5V
VIDEO/RGB
MODE SW Q520,521
SW Q653
SW Q656
BD SW Q857-859
PL GEN Q650,651
TEST BUFF Q652
SG SW Q654,655
SG SW Q660-662
C BRT SW Q663-665
BOARDER
NOR/TEST
PL
PH
SG
C.BRT
H.SYNC
V.SYNC
2H.SYNC
2V.SYNC
Y
R-Y
B-Y
2Y
2R-Y
2B-Y
REF 1
REF 2
HUC
COLOR
VIDEO/IDTV
NTSC IDTV
PAL IDTV
C.BLK
Y CLAMP Q212
CLAMP Q218
Y.BUFF Q213
R-Y CLAMP Q214
REF DC BUFF Q219
R-Y BUFF Q215
B-Y CLAMP Q216
B-Y BUFF Q217
SCP BUFF Q221
IC005 ID TU SW
SHARPNESS
IC010 SHARPNESS
B.P.C.P
CLAMP
R OUT
G OUT
B OUT
R(VIDEO)
G(VIDEO)
B(VIDEO)
Y.IN
R-Y BUFF Q203
R-Y IN
IC003 MATRIX
B-Y BUFF Q202
B-Y IN
IC012 LEVEL SHIFT
HUE
COL
SW1 DYNAMIC PIC SW
AUTO PED
BRT
PIX
RV201 SUB BRT
RV203 SUB PIC
BLK1
BLK BUFF Q355
IC009 50/60 DET
V.SYNC Q226
OUT 1
OUT 2
50/60 SW Q225
50/60 SW Q224
IC007 ID TU SW
NTSC IDTV
PAL IDTV
RGB/VIDEO ②
V.SYNC
H.SYNC
IC006 ID TU SW
VD ①
HD ①
POWER CONT
POWER CONT Q018,019
+12V REG IC008
+12V
+15.5V
+9V
+9V REG Q201
+9V (CM001)
+9V REG Q006
+5V
+5V REG Q222
+5.7V
BB-3
VIDEO OUT
J102
VIDEO
S-Y
S-C
VIDEO/YC ②
HD SELET
V IN SELECT
VIDEO BUFF Q001
CM001
IC001 SYSTEM SW
BPF002
BPF001
Y-BUFF Q002
DL001
Y-AMP Q003-005
Y.CLAMP Q352
Y.BUFF Q351
IC004 IDTU SW
BGP SHIFT Q223
REF DC BUFF Q220
RV202 H.FREQ
AFC Q204,205
V SYNC SW Q208-210
V SYNC SW Q207
SYNC BUFF Q206
H SYNC SW Q211
L101
BPF003
SECAM C BUFF Q008
PAL C BUFF Q009
NTSC C BUFF Q010
C BUFF Q007
COUT
C.IN
F.B
DL101
L103 DAT
RV101 DAR
COL BIAS
R.Y
B.Y
IC002 DECORDER
PAL
SECAM
NT 3.58
NT 4.43
OSC
SCP
SECM R.Y
L104 R-Y
SECAM B.Y
L105 B-Y
L102 SECAM ID
ID
ID C Q350
RAMP
RV102 SUB HUE
MODE SW Q109
MODE SW Q103
SYSTEM SW Q347
SECAM SW Q101,102
MODE SW Q104
MODE SW Q108
NT4.43 SW Q348
W/B SW Q013
MODE SW Q356
MODE SW Q357
W/B SW Q012
SYSTEM SW Q349
TRAP SW Q016,017
3.58 4.43 SW Q014,015
PAL OSC SW Q107
NT OSC SW Q106
CT102 4.43M
CT101 3.58M
X102
X101
CODE 2
CODE 1
SECAM ON
N.C.
13
S ON G AMP Q901,902
S ON G AMP Q905,906
S ON G SYNC SEP Q907-910
S ON G SYNC SEP Q911
SYNC BUFF Q912,913
IC413 S.P GEN
RESET 1
RV901 PULSE ADJ
HD.VS DET
S ON G AMP Q915
TS DET Q919,920,922,923
S ON G AMP Q914
S ON G AMP Q916-918
TS.DET Q921
TS.DET Q924
+5V

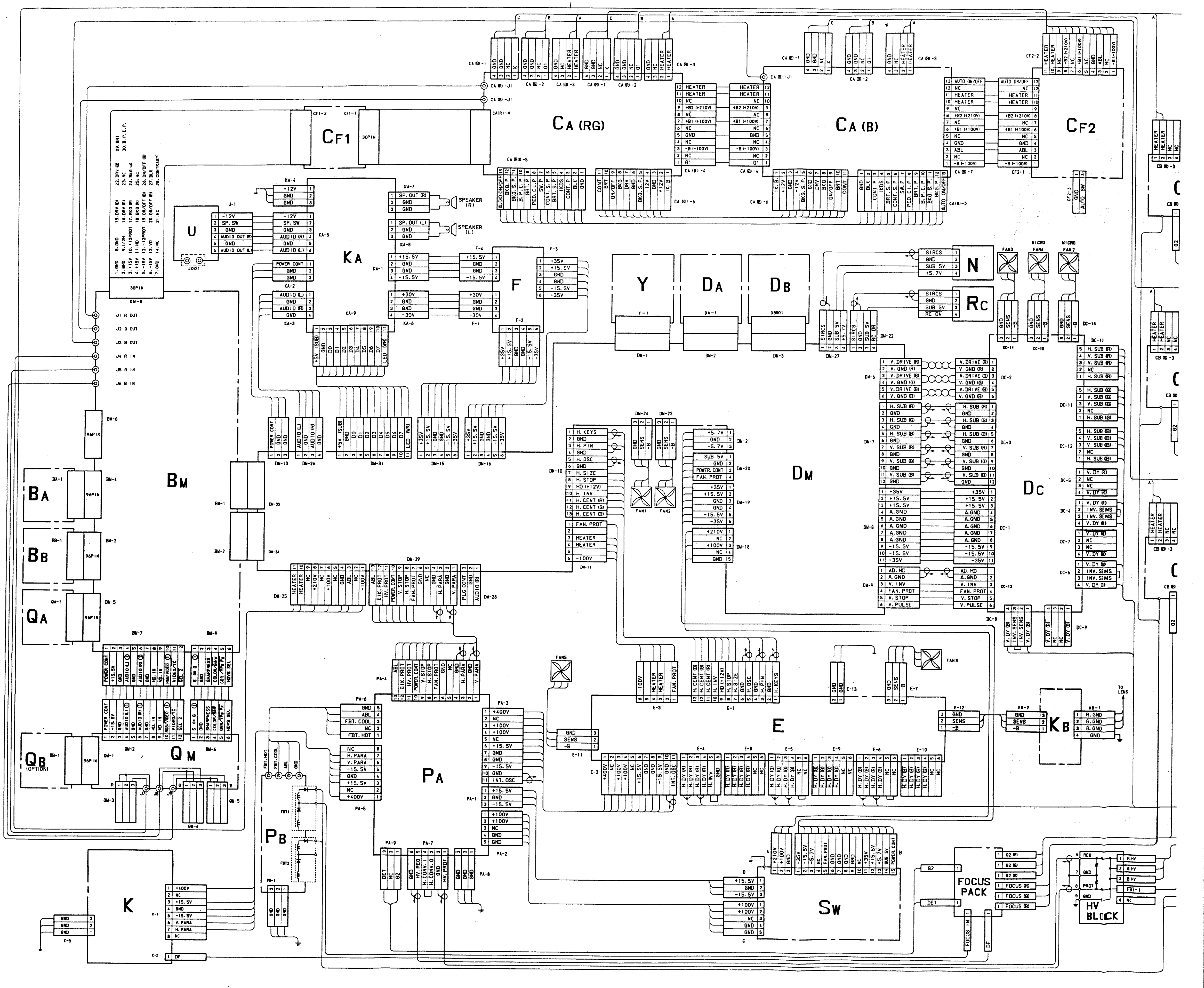

RESET PULSE GENERATE
PULSE REFORM IC5
INVERTE IC5
RS-422 LINE DRIVER / RECIVER IC24
CPU IC1
12.288MHz
WAIT CONTROL IC6
ADDRESS ENCODE / PARALLEL INTERFACE / INTRRUPT CONTROL IC10
PROGRAM ROM IC2
RAM IC3
EEPROM IC4
LED DIVE Q7
D4
SW1
SW2
ADDRESS DECODE FOR MEMORY IC28
ADDRESS DECODE FOR MEMORY IC28
SIRCS DECODE IC9
X3 4MHz
SIRCS IS RESET Q5
POWER DOWN DETECT Q4
+5V.SUB
POWER CONTROL DRIVE Q3
fH, fV DETECT IC12
16MHz
V-SYNC DETECT IC29
SYNC CONTROL / CLAMP PULSE GENERATE IC11
H-SYNC REFORM IC6
IC23
WINDOW COMPERATOR IC22
DUAL VOLTAGE-CONTROLLED OSCILATOR IC21
IC23 CLOCK SELECT / BUFFER
VOLTAGE COMPERATOR IC25
CURRENT BUFFER Q6
IC20 DIGITAL PHASE COMPERATOR
INVERTER IC5
IC27
VD SIFT FOR CHARACTER GENERATE IC26,27
DATA BUS BUFFER IC7
ADDRESS BUS BUFFER IC8
CHARACTER & TEST PATTERN GENERATE IC13
CHARACTER SIGNAL TTL > ECL TRANSLATION IC19
IC18 CHARACTER / TEST PATTERN SIGNAL TTL > ECL TRANSLATION
X4 14.098MHz
CHARACTER DISPLAY RAM IC14
CHARACTER FONT ROM No.1 IC15
CHARACTER FONT ROM No.2 IC16
CHARACTER FONT ROM No.3 IC17
Y (CPU MEMORY)
TO BM BOARD
TO KA BOARD
TO PA BOARD
TO E BOARD
TO CF1 BOARD
TO BM BOARD
TO BA BOARD
N.C.
SIRCS IC601
D602
Q601
D601
SUB +5V
+5.7V
N (RECIEVER)
SIRCS BUFF Q1,2
LED DRIVE Q5
D1
SIRCS ENCODER IC1
Rc (CONTROL PANEL)
V.SHIFT LEVEL COMP IC12
V.SHIFT BIAS-1 Q12
V.SHIFT BIAS-2 Q13
V.SHIFT GEN IC11
V.SYNC SW Q11
V.SYNC SW IC17
PULSE GEN IC13
S2 V.SYNC OFF
V.SYNC BUFF Q14
JUNGLE IC14
SW IC8
V.STOP RROT Q31
VIDEO AFC SW-2,3 Q29,30
VIDEO AFC SW-1 Q27
RV3
VIDEO AFC BIAS Q28
H.SYNC BAIS Q15
RV1 AFC ADJ
RV2 V.HOLD
VD BUFF-1,2 Q16,202
AFC HD LEVEL COMP-2 IC16
H.SHIFT BIAS-3 Q8
PULSE GEN IC13
S1 HD OFF
AFC HD BUFF Q9
AFC HD LEVEL COMP-1 IC10
H.SHIFT BIAS-1 Q6
H.SHIFT BIAS-2 Q7
AFC HD GEN IC9
H.F.HD BUFF Q10
SW IC8
AD,HD GEN IC3
AD,HD LEVEL COMP IC4
AD,HD BIAS Q2
HD BUFF-1 Q1
AD,HD BUFF Q3
H BLK LEVEL COMP, IC6
H.BLK BIAS-1 Q4
H.BLK BIAS-2 Q5
H.BLK GEN IC5
HD BUFF Q201,230
REGI WAVE GEN IC201
REGI WAVE BUFF IC204
REGI WAVE BUFF IC207
REGI WAVE BUFF IC204
REGI WAVE BUFF IC203
REGI WAVE BUFF IC205
REGI WAVE BUFF IC206
HSXVS
HPXVS
HSXVP
FAN PROT Q25
FAN PROT Q26
FAN 1
FAN 2

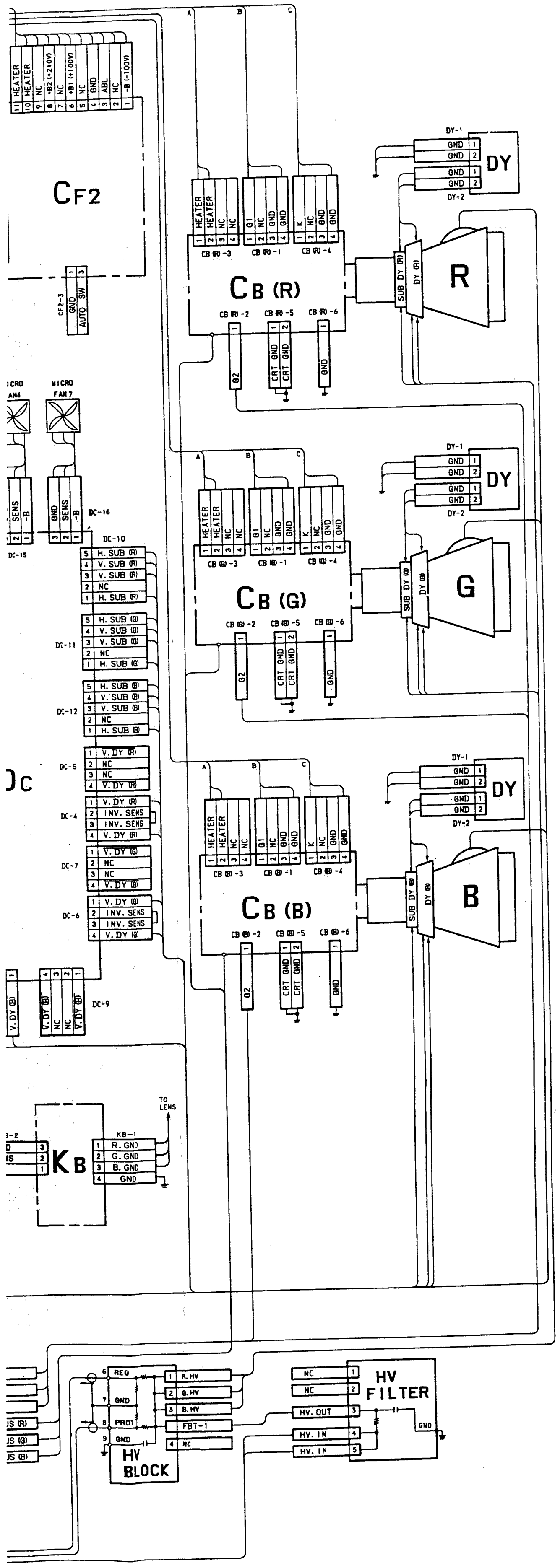

DA (REGI WAVEFORM GENERATOR)
DB (ELECTRONIC VR)
DC (V OUT SUB.OUT)
DM (DEFLECTION MOTHER BOARD)
REGI WAVE GEN IC201
REGI WAVE BUFF IC204
REGI WAVE BUFF IC207
REGI WAVE BUFF IC203
REGI WAVE BUFF IC205
REGI WAVE BUFF IC206
WAVE DEVIDER IC210
TILT SW Q222-229
IC213,214
TILT BUFF IC214
H.PARA BIAS IC215
H.SAW RECT IC217
H.SIN MULTIPLEX Q213-220
H SIN DEVIDER IC218
H.SIN BUFF IC219
PULSE INV IC202
1/2H BUFF Q203
V.PARA BIAS IC209
V.SAW RECT IC208
V.SIN MULTIPLEX Q205-212
WAVE DEVIDER IC210
V.SIN BUFF IC211
1/2V BUFF Q204
V.BLK SW IC220
BLK MIX IC221
BLK BUFF Q221,231
H.BLK LEVEL DET IC401
LEVEL SHIFT IC15
SIZE MULTIPLEX Q17-24
FAN PROT Q25
FAN PROT Q26
FAN1
FAN2
DATA BAS BUFF IC501
DATA BAS BUFF IC502
ADD BAS BUFF IC503
ADD BAS BUFF IC504
ADD DECODE IC505-510
H.ZONE CONT IC527-534
V.ZONE CONT IC535-542
H.CENT.CONT-1 IC511
H.CENT.CONT-2 IC512
IC552 STAND VOLT.REG
V.CENT.CONT-1 IC519
V.CENT.CONT-2 IC520
H.SKEW CONT IC513
V.SIZE CONT IC521
H.BOW.CONT IC514
V.LIN.CONT IC522
H.SIZE CONT IC515
V.SKEW.CONT IC523
H.LIN CONT IC516
V.BOW.CONT IC524
H.KEYS.CONT IC517
V.KEYS.CONT IC525
H.PIN.CONT IC518
V.PIN.CONT IC526
USER CONT IC543
DRV CONT IC544
BKG CONT IC545
BLK CONT IC546
V.OUT BUFF IC547(1/2),548
SUB OUT BUFF IC549,550(1/2)
IC550(2/2),551
R SUB AMP IC101
G SUB AMP IC102
B.SUB AMP IC103
R.H.SUB PRE DRIVE IC301
G.H.SUB PRE DRIVE IC302
B.H.SUB PRE DRIVE IC303
R.V.SUB AMP IC201
G.V.SUB AMP IC202
B.V.SUB AMP IC203
V.STOP DET IC3
V.STOP DET IC5
V.STOP DET IC7
R.V.OUT IC4
G.V.OUT IC6
B.V.OUT IC8
V.PULSE DET Q1
V.PULSE SET Q2
V.PLUSE DET Q3
V.INV SW Q7
INV SENS.
V.STOP CONT SW Q4,5
V.PULSE BUFF Q6
V.PULSE GEN IC9
+P VOLT SW Q105
BUFF Q103,104
AD HD SW Q102
AD HD BUFF Q101
AD HD BUFF Q106,107
-P VOLT SW Q108
CURRENT PROT Q9
+12V REG IC1
-12V REG IC2
CURRENT PROT Q10
FAN PROT Q8
FAN PROT Q11,13
FAN PROT Q12,14
FAN3
FAN6
FAN7
+35V
-35V
+15.5V
-15.5V
+12V
H.SUB (R)
H.SUB (G)
H.SUB (B)
V.SUB (R)
V.SUB (G)
V.SUB (B)
V.DY (R)
V.DY (G)
V.DY (B)
34
28 TO E BOARD
29 TO CF1 BOARD
1 18 TO BB BOARD TO BA BOARD
7 30 TO BM BOARD TO E BOARD


E (H.OUT)
H.KEYS
H.PIN
H.SIZE
F.V AMP IC106
FV AMP IC106,103
TP7 OFFSET ADJ
FV AMP IC105
FV AMP IC102,103
FV AMP IC104
TP1 FV
F-V AMP IC104
IC111
POWER OFF PROT Q102
PIN MOD REG Q110
F-V AMP IC105
T105
PIN MOD LEVEL CONT IC107
PIN MOD PR AMP IC108
FV SW Q101
TP2 POWER
PIN MOD PROT Q106
PIN MOD AMP IC112
L106
TP3 PIN MOD OUT
POWER ON BIAS Q129
COMP
OSC
PRE DRIVE Q109
PIN MOD REG DRIVE Q107,108
L112
PIN MOD PRE BUFF Q103,104
H.PIN OUT Q111,112
IC101
H.OSC
H.SIZE PROT IC114
IC112 +B
IC112 -B
T2
+5V
-5V
CURRENT PROT SW Q121
CURRENT PROT Q120
+100V
-100V
T3
LOT DRIVE Q22
LOT CONT Q21
HEATER
H OSC BUFF Q130,131
H DRIVE Q145
H DRIVE BUFF Q146,147
H DRIVE REG Q143,144
H OUT PROT Q149,150
H.SIZE CONT Q113
TP8 SIZE DET
RV104
INV OSC BUFF Q121
INT OSC
H.OSC DET IC113
CONT AMP Q132,134
H.OSC DEF IC113
VARIABLE REG OUT Q135,136,142
IB CONST Q3
IB CONST Q139
IB DET Q148,140
SH-PULSE DET Q141
TP6 H.STOP
H.OUT Q7
HD DRIVE Q118
HD. OUT Q116,117
CD
IC101
H.STOP SW Q115
H.STOP
HD (+12V)
N.C.
H.INV
IC1
H.CENT(R)
H.CENT OUT Q1,2
LV3
H.DY (R)
H. INV
H.CENT(G)
H.DY (G)
H.CENT(B)
H.DY (B)
FAN8
FAN5
SENS
FAN PROT
FAN PROT SW Q119
FAN PROT SW Q122
FAN PROT SW Q128
+15V
+15.5V
+12V
+12V REG IC109
-12V
-12V REG IC110
-15V
-15.5V
SENS
㉘
㉓
㉚
㉖
㉕
Dm
F (POWER FILTER)
+30V
-30V
+15.5V
-15.5V
+12V
+12V REG IC001
-12V
-12V REG IC002
+15.5V
POWER CONT Q001,002
POWER CONT
㊱
POWER CONT Q003
-30V
POWER CONT Q017
DECODER IC004
DECODER IC005
DISPLAY IC007
BUFFER Q13,14
1COM
DECODER IC006
BUFFER Q15,16
2COM
VCA
CL
㉞
D0 - D7
㉑
LED (WR)
IC003 AUDIO AMP
LEVEL SHIFT Q008
MUTE SW Q009
LEVEL SHIFT
MUTE SW Q005
IN 1
IN 2
OUT 1
OUT 2
TP5
SP. OUT(L)
SP. OUT(R)
RV001
RV
SPEAKER (L)
SPEAKER (R)
㉟
BUFF Q011
BUFF Q007
MUTE SW Q012
U (JACK)
J001
SW001 SP. SW
ON
OFF
-12V
KA (AUDIO, LENS FOCUS SHIFT)
SENS
K
H. PARA
V. PARA
P
AC INLET
T901
F901
SW901
T601
T602
M3B (LINE FILTER)
RY101
F903
D601 AC RECT
L104
DC
M1 (POWER SUPPLY)
T101
210V RECT D201-204
L201,203
210V RECT Q201-203
+210V
AMP IC201
2.5V REF IC202
RV202
RV201
100V RECT D205,206
L202 L204
+100V
T102
RECT D51-54
L51
CONTROL IC51
CONV SPEED UP Q101-106
T103,104
DRIVE Q208,209
AMP Q53
AMP IC203
STOP. S
5.0V REF VOLT IC204
OV Q204,205
OV Q206,207
C1
M2 (POWER SUPPLY)
T151
35V RECT D251,256
15.5V RECT D252,255
5.7V RECT D253,254
L253
L252
L251
L254
L259
L255
L258
L256
L257
+35V
-35V
+15.5V
-15.5V
+5.7V
-5.7V
T152
L151
CONV Q151,152
SPEED UP Q153,154
T153,154
DRIVE Q256,257
D51-54
L51
CONTROL IC51
T155
D281
CONV Q155
OC Q156
5V REG IC253
SUB (+5V)
REG Q254
VCC1
AMP Q253,255
AMP Q53
RV251
2.5V REF IC251
AMP IC252
AMP Q251
AMP Q258
POWER CONT
CLAMP D284
FAN PROT
-12V REG Q252
-12V
AMP Q259
SENSER
FAN
AMP Q260
C2
FAN PR
POWER
H.STOP
V.STOP
H.PARA
V.PARA
H.V PR
Σ1k PR
NT. OSC
⑫
㉒


F (POWER FILTER)
+30V
-30V
+15.5V
-15.5V
POWER CONT
KB (PROTECTOR)
SENS SW Q020
SENS SW Q021
SENS SW Q022
R.GND
G.GND
B.GND
TO LENS
SENS
(AUDIO DYNAMIC FOCUS) K
IC201(1/2)AMP1
IC202 AMP2
Q201,202
DRIVER
T201
IC201(2/2)AMP1
Q203
AMP2
Q204
DRIVER
H.PARA
V.PARA
DF
J001
SW001 SP.SW
ON
OFF
-12V
PA (HIGH VOLTAGE REG.)
+12V
G2 REG Q18
Q2
DEF
HV REC CONTROL IC6
TP3 HV DET
IC1
HV.REF
TP1 REG OSC
HV REG Q11
T1
HV. REG DRIVE Q5
REG OSC BUFF Q20
COMP
OSC
POWER ON RESET Q12,14
HV.REG REF IC9
FAN PROT
STOP INV Q17
POWER CONT
POWER CONT Q15
REG UP PROT IC3
H.STOP
V.STOP
H.PARA
V.PARA
STOP BUFF Q16
HV STOP Q9
HV PROT BUFF IC4
HV PROT IC2
HV PROT DET IC2
H.V PROT
HV STOP Q7
Σlk DET2
Σlk PROT BUFF IC4
Σlk PROT IC3
LOW B PROT IC1
Σlk PROT
HV. STOP Q8
Σlk DET 1 Q1
TP2 INT OSC
INT. OSC
FAN
SENSER
FAN PROT
CF1 (FILTER)
TO BM BOARD J1
TO BA BOARD J2
CA(R) J1
DRV (R)
BKG (R)
ON/OFF (R)
R SIGNAL PROCESS IC104
IN
OUT
DRV
BKG
ON/OFF
B.P.C.P
SW.P
CONT
CONT.P
CONT.S.P
PED.CL.P
BRT.
BKG.P
BLK
R.VIDEO OUT IC101
VIDEO
I LEVEL
V LEVEL
R.CLAMP IC103
CL.P
BKG.SP
R.CLAMP Q101,102
R AUTO BKG IC102
R.AUTO BKG SW Q108-110
AUTO ON/OFF
R.AUTO BKG Q111
BRT.S.P
R.CURRENT SOURCE Q104
R.IK DET Q103,105-107,112
IKDS
IK.R
CA(G) J1
DRV (G)
BKG (G)
ON/OFF (G)
IC204
IC201
IC203
Q201,202
IC202
Q211
Q204
Q208-210
Q203,205-207,212
PEAK & ST ABL IC8
S.T. ABL Q15
S.T. ABL Q19
PIC CONTRAST
CONTRAST CONTROL Q1
PEAK ABL Q14
R.G.B S.T. ABL Q16-18
IK R
IK G
IK B
BRT
B.P.C.P
+12V REG IC2
+12V
REG
+15V
+12V PROT Q2,3
+12V PROT
+5V
+5V REG IC3
-12V PROT Q4
-12V PROT
-12V REG IC1
-12V
-15V
PULSES GEN IC5
PULSES GEN IC6
VD
HD
1/2H
PULSES GEN IC4
CONT.P
CONT.S.P
SW.P
PED.CL.P
BRT.S.P
IKDS
PULSES GEN IC7
BKG.S.P GEN Q5-7
BKG.S.P GEN Q11-13
BLK
BLK.P.GEN Q8-10
PULSES GEN IC6
DRV (B)
BKG (B)
ON/OFF (B)
CARG (VIDEO OUT R,G)
CB(R) (CRT SOCKET)
CB(G) (CRT SOCKET)
CB(B) (CRT SOCKET)
H
K
G1
G2
F
R CRT
G CRT
B CRT
CA(B)-J1
TO BM BOARD J3
B SIGNAL PROCESS IC304
B.Y CORR IC305
B VIDEO OUT IC301
BRT OUT
B.CLAMP IC303
B CLAMP Q301-302
B.AUTO.BKG IC302
B AUTO BKG SW Q308-310
B. AUTO BKG Q311
B CURRENT SOURCE Q304
B.Ik DET Q303,305-307,312
BRT. PULSE GEN Q43
IK.B
CF2 (FILTER)
N.C.
AUTO ON/OFF
HEATER
ABL
Σ ABL Q30,31
+210V
+210V RIPPLE FILTER Q41
+B2 (+210V)
-100V
-100V RIPPLE FILTER Q42
-B (-100V)
BLK Q33-40
OFF STOP PROT Q32
(VIDEO OUT B) CAB
DM
FOCUS PACK
FOCUS
SCREEN
DF
MV
HV BLOCK
REG
PROT
IN
OUT
HV FILTER
OSC DEV 2 IC8
OSC DEV-1 IC7
OSC DEV-2 IC8
X1
OSC BUFF 2 Q4
OSC BUFF 1 Q3
RV1
HV DRIVE CONT Q19
T2
HV CONV DRIVE Q6
HV CONV Q10
FBT HOT
HV CONV 0
HV CONV 1
FBT COOL
PB (FBT)
FBT 1
FBT 2
⑭
㉔
⑮
㉙
⑪
㉗
⑯
㊱
㉖
⑫
㉕
㉒

7-4. FRAME SCHEMATIC DIAGRAM


CF1
CA (RG)
CA (B)
CF2
U
KA
SPEAKER (R)
SPEAKER (L)
F
Y
DA
DB
N
RC
BM
BA
BB
QA
QB (OPTION)
QM
DM
DC
PA
PB
E
KB
K
SW
FOCUS PACK
HV BLOCK
TO LENS



7-5. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μ F unless otherwise noted. pF : μ μ F 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms, 1/4W in resistance; 1/10W in chip resistance.
  k Ω =1000 Ω , M Ω =1000k Ω
- METAL FILM (:RN) resistors in 1%, 1/6W unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ☐ : panel designation and adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved.(Refer to R1, R4, R29, R30, R33, R34, R41, R42 adjust on **Page** 94~96.)

Part replaced (◪)	Adjustment (⊠)
IC2, Q7, D9, D12, C13, R20, R21, R22, R23, R24, R32, R33, R34, R35, R36, R82, (PA BOARD) PA MOUNT HV BLOCK	HV HOLD DOWN (R33, R34)
IC1, IC6, IC7, IC8, IC9, D13, C16, R37, R38, R39, R40, R41, R42, R53, R55, R56, R58, R59, R129, X1, (PA BOARD) PA MOUNT, PB MOUNT HV BLOCK	HV REGULATION (R41, R42)
IC2, IC3, IC5, Q1, Q2, Q7, Q8, D4, D5, D9, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R20, R21, R22, R23, R24, R43, R44, R45, R46, R47,R82, R88, R119, R120, R121, R122, (PA BOARD) R199 (DA BOARD) PA MOUNT, PB MOUNT	BEAM CURRENT PROTECTOR (R1, R4)
IC1, IC3, IC5, Q8, D4, D5, D10, D11, R9, R10, R26, R28, R29, R30, R31, R88, R95 (PA BOARD) PA MOUNT	LOW B PROTECTOR (R29, R30)

- Voltage value is the reference value between it & the earth, when NTSC 3.58 color bar signal is received from color bar generator (digital multi- meter used : 10M ohms/V DC).
- ☆ : Displays a list of BB, BA board modes. (PAL, SECAM, NTSC 3.58, NTSC 4.43)
  Displays a list of existing voltages, when board E has issued a white pattern of internal signals.
- Unit of voltage values is V (volt).
- For other modes, see the respective circuit diagrams.
- ✕ : Measurement disabled
- : B+ line
- : B− line
  (Actual measured value may be different).
- Round numerals indicate Waveform Table No.
- ➡ : signal path

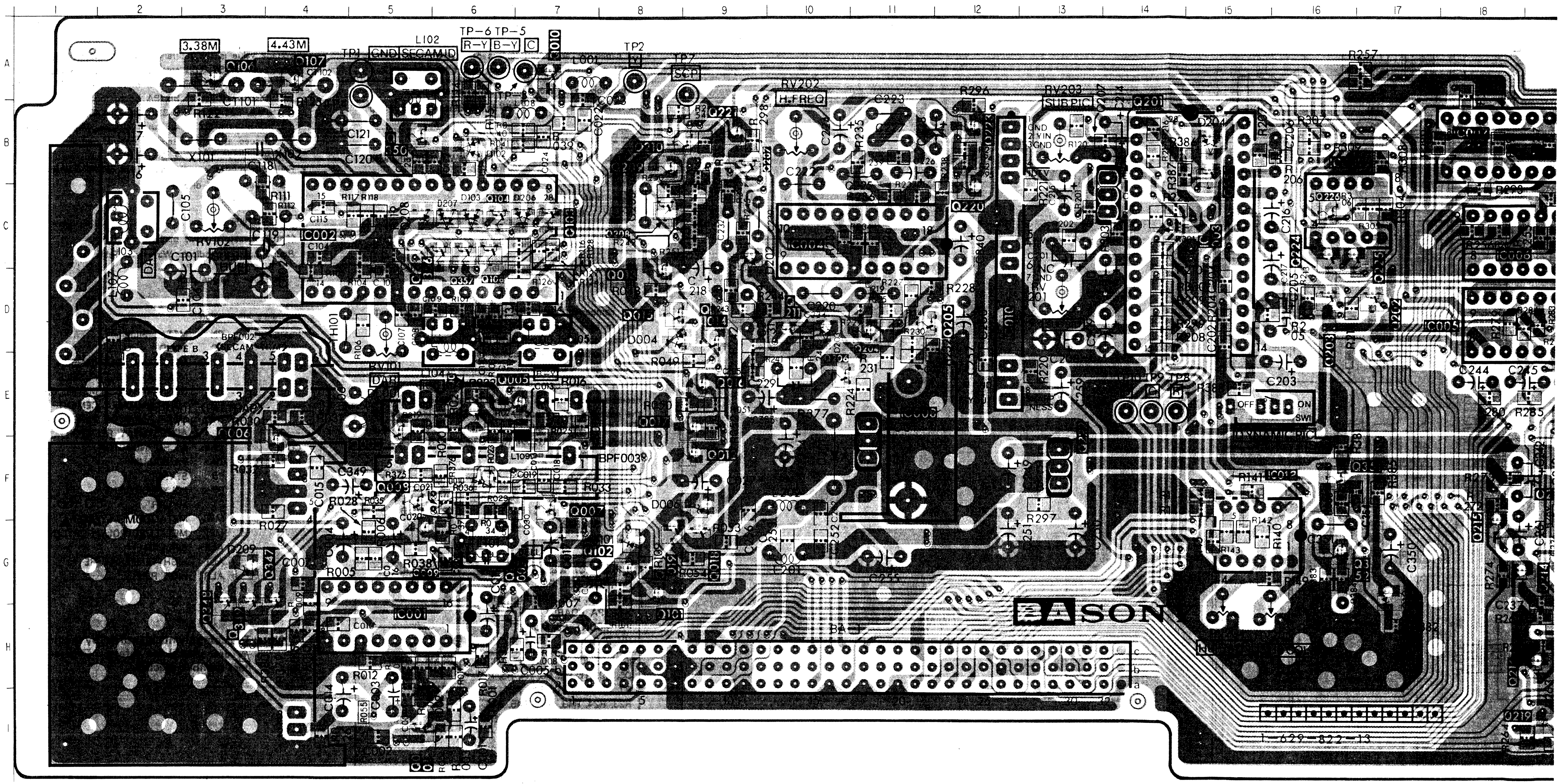
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

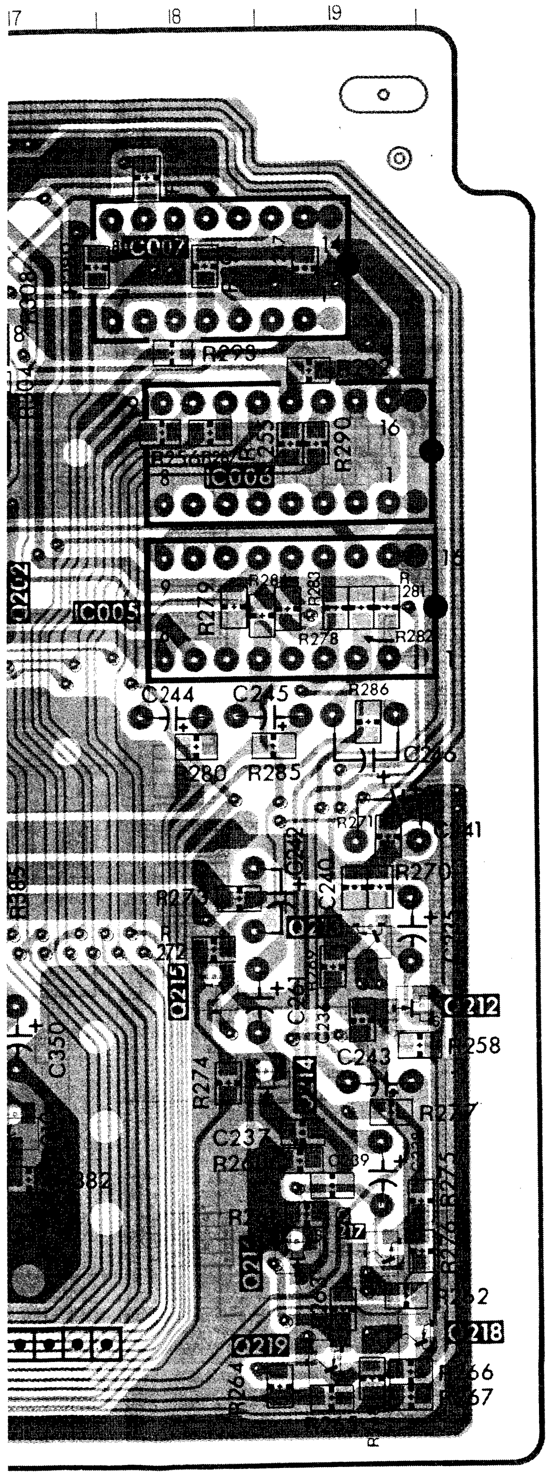
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

BA [4-STD DECODER]

– BA BOARD –


3.38M
4.43M
TP1
GND
SECAM ID
L102
TP-6
TP-5
R-Y
B-Y
C
TP2
TP7
SCP
RV202
H.FREQ
RV203
SUB PIC
RV101
RV102
X101
BPF003
DYNAMIC PIC
OFF
ON
SW1
IC001
IC002
IC005
BA
SONY
1-629-822-13

• ▨ : Pattern from the side which enables seeing.
• ▨ : Pattern of the rear side.



seeing.

BA BOARD

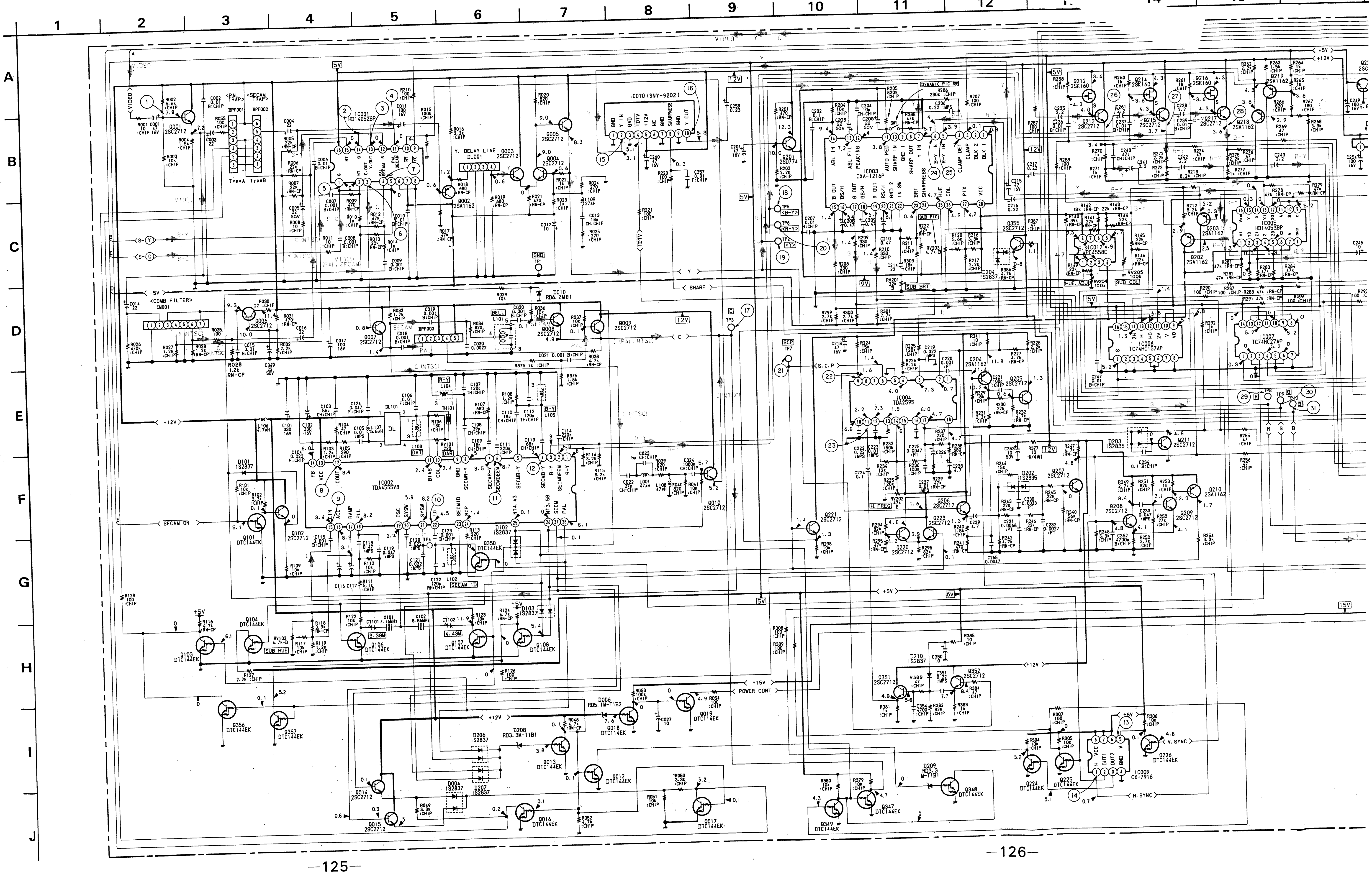
IC	
IC001	H - 5
IC002	C - 4
IC003	C - 15
IC004	C - 10
IC005	D - 18
IC006	C - 18
IC007	B - 18
IC008	F - 11
IC009	C - 16
IC010	D - 12
IC012	G - 15
TRANSISTOR	
Q001	I - 5
Q002	H - 6
Q003	E - 5
Q004	E - 6
Q005	E - 6
Q006	F - 4
Q007	F - 7
Q008	F - 5
Q009	G - 5
Q010	A - 7
Q012	F - 9
Q013	D - 8
Q014	D - 9
Q015	D - 8
Q016	E - 9
Q017	E - 9
Q018	G - 9
Q019	G - 8
Q101	G - 8
Q102	G - 8
Q103	C - 7
Q104	C - 6
Q106	A - 3
Q107	A - 4
Q108	C - 6
Q201	C - 14
Q202	D - 17
Q203	D - 16
Q204	D - 11
Q205	D - 11
Q206	E - 10
Q207	B - 9
Q208	C - 8
Q209	B - 8
Q210	B - 8
Q211	D - 10
Q212	G - 19
Q213	F - 19
Q214	G - 19
Q215	G - 18
Q216	H - 19
Q217	H - 19
Q218	I - 19
Q219	I - 19
Q220	C - 12
Q221	B - 9
Q222	F - 13
Q223	B - 12
Q224	C - 16
Q225	C - 17
Q226	C - 16
Q347	H - 4
Q348	H - 3
Q349	H - 3
Q350	B - 5
Q351	F - 16
Q352	G - 16
Q355	B - 15
Q356	C - 6
Q357	C - 6
DIODE	
D004	D - 8
D006	F - 9
D010	F - 6
D101	G - 8
D102	B - 6
D103	C - 6
D201	F - 10
D202	C - 9
D203	D - 10
D204	B - 15
D206	C - 7
D207	C - 6
D208	C - 5
D209	G - 3
D210	H - 17
ADJUSTING ELEMENT	
CT101	A - 3
CT102	A - 4
RV101	D - 5
RV102	C - 3
RV201	D - 13
RV202	B - 10
RV203	B - 13
RV204	H - 15
RV205	H - 16

IC-No.	PIN-No.	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
001	①	0	0	0	0	−0.3
	③	−0.7	−0.7	0	−0.7	−0.3
	④	−0.7	−0.7	0	−0.7	0
	⑨	5.1	5.1	5.1	5.1	0
	⑩	4.7	4.7	0	4.7	0
002	⑤	8.6	4.3	7.2	8.1	6.2
	⑦	8.5	4.4	7	7.9	5.9
	⑳	5.9	5.9	7.7	7.7	7.7
	㉑	8.2	7.5	5.9	5.9	5.9
	㉕	0.1	0.1	0	6.1	0
	㉖	0	0	6.1	0	6.1
	㉗	0.1	6.1	0	0	0
	㉘	6.1	0.1	0	0	0
004	⑩	6.6	6.3	6.5	6.6	6.6
	⑬	1.9	2	1.8	2.2	1.8
006	⑪	1.4	0.3	0.9	0.9	0.7
	⑭	1.3	0.2	0.9	0.9	0.6
007	①	0.3	2.9	0.3	0.3	0.3
	③	0	0	5.1	5.2	5.2
	⑪	0	4.3	0	0	0
009	②	5.1	0	5.1	5.1	5.1
	③	0	5.2	0	0	0
010	⑧	0.3	0.3	0.3	0.3	3.4

Q-No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
007	B	−0.7	−0.7	0	−0.7	−0.3
	C	−	−	−	−	−
	E	−0.7	−1.3	−0.7	−1.3	−1
008	B	0	*	0	0	0
	C	−	−	−	−	−
	E	5	5	5.4	5	5.4
009	B	*	0	0	*	0
	C	−	−	−	−	−
	E	5	5	5.4	5	5.4
010	B	0	0	*	0	8
	C	−	−	−	−	−
	E	4.9	5	5.4	4.9	5.4
012	B	−	−	−	−	−
	C	0	0	4.3	0	4.3
	E	−	−	−	−	−
014	B	0.1	6.1	0.2	0.3	0
	C	−	−	−	−	−
	E	0.3	5.5	0	0.4	0
015	B	0.6	0.1	0.2	5.6	0
	C	−	−	−	−	−
	E	5	1.9	0	5	0
016	B	−	−	−	−	−
	C	0.2	4.1	0.1	0.3	0
	E	−	−	−	−	−
017	B	−	−	−	−	−
	C	3.2	3.6	0	3.2	0
	E	−	−	−	−	−
103	B	6.1	0	0.3	0.2	0
	C	−	−	−	−	−
	E	−	−	−	−	−
104	B	0	0	6.1	0.1	6.1
	C	5.2	5.2	0	5.2	0
	E	−	−	−	−	−
106	B	0	0	6.1	0.1	6.1
	C	12.4	12.4	0	12.4	0
	E	−	−	−	−	−
107	B	5.6	0.1	0.2	5.6	0
	C	0	12.4	12.4	0	12.4
	E	−	−	−	−	−
108	B	0.7	0.5	5.6	5.6	5.6
	C	5.2	5.2	0	0	0
	E	−	−	−	−	−
207	B	−0.1	0	−0.2	0	0
	C	−	−	−	−	−
	E	−	−	−	−	−
220	B	4.3	4.3	4.1	4.3	4.4
	C	4.6	4.7	4.4	4.4	4.4
	E	3.9	5.6	4.2	3.8	3.8
223	B	0	6.1	0.2	0	0
	C	−	−	−	−	−
	E	3.9	5.6	4.2	3.8	3.8
224	B	5.1	5.2	0	0	0
	C	5.2	0	5.1	5.2	5.2
	E	−	−	−	−	−
225	B	0	0	5.1	5.1	5.1
	C	0	4.3	0	0	0
	E	−	−	−	−	−
347	B	0	0	4.3	0	0
	C	4.7	4.7	0	4.7	0
	E	−	−	−	−	−
348	B	0	0	0	4.2	0
	C	0	0	4.3	0	0
	E	−	−	−	−	−
349	B	4.3	4.3	0	0	0
	C	0	0	4.3	0	0
	E	−	−	−	−	−
350	B	0	0	5.1	5.1	5.1
	C	−	−	−	−	−
	E	−	−	−	−	−
355	B	1.1	1.2	1	1.2	1.2
	C	−	−	−	−	−
	E	−	−	−	−	−
357	B	−	−	−	−	−
	C	5.2	5.2	0	0	0
	E	−	−	−	−	−

BA	IC1	HD14052BP	SYSTEM SW
	2	TDA4555-VB	DECORDER
	3	CXA1216P	MATRIX
	4	TDA2595	JUNGLE
	5	HD14053BP	IDTV SW-1
	6	TC74HC157AP	IDTV SW-2
	7	TC74HC27AP	IDTV SW-3
	8	NJM78M12A	12V REG
	9	CX-7916	50/60 DET
	10	SNY-9202	SHARPNESS
	12	μ PC4558C	LEVEL SHIFT
	Q1	2SC2712	VIDEO BUFF
	2	2SA1162	Y BUFF-1
	3	2SA2712	Y AMP-1
	4	2SA2712	Y AMP-2
	5	2SA2712	Y AMP-3
	6	2SC2712	9V REG-1
	7	2SC2712	C BUFF
	8	2SC2712	SECAM C BUFF
	9	2SC2712	PAL C BUFF
	10	2SC2712	NTSC C BUFF
	12	DTC144EK	W/B SW-1
	13	DTC144EK	W/B SW-2
	14	2SC2712	NT3.58 SW
	15	2SC2712	NT4.43 SW
	16	DTC144EK	TRAP SW-1
	17	DTC144EK	TRAP SW-2
	18	DTC114EK	POW CONT-1
	19	DTC114EK	POW CONT-2
	101	DTC144EK	SECAM SW-1
	102	2SC2712	SECAM SW-2
	103	DTC144EK	MODE SW-1
	104	DTC144EK	MODE SW-2
	106	DTC144EK	NT OSC SW
	107	DTC144EK	PAL OSC SW
	108	DTC144EK	MODE SW-3
	109	DTC144EK	MODE SW-4
	201	2SD774	9V REG-2
	202	2SA1162	B-Y BUFF-1
	203	2SA1162	R-Y BUFF-1
	204	2SA1162	AFC-1
	205	2SC2712	AFC-2
	206	2SC2712	SYNC BUFF
	207	2SC2712	V.SYNC SW-1
	208	2SC2712	V.SYNC SW-2
	209	2SC2712	V.SYNC SW-3
	210	2SA1162	V.SYNC SW-4
	211	2SC2712	H.SYNC SW
	212	2SK160	Y.CLAMP-1
	213	2SC2712	Y.BUFF-2
	214	2SK160	B-Y CLAMP
	215	2SC2712	R-Y BUFF-2
	216	2SK160	B-Y CLAMP
	217	2SC2712	B-Y BUFF-2
	218	2SA1162	CLAMP
	219	2SA1162	REF DC BUFF-1
	220	2SC2712	REF DC BUFF-2
	221	2SC2712	SCP BUFF
	222	2SD774	+ 5V REG
	223	2SC2712	BGP SHIFT
	224	DTC144EK	50/60 SW-1
	225	DTC144EK	50/60 SW-2
	226	DTC144EK	V.SYNC SW-5
	347	DTC144EK	SYSTEM SW-1
	348	DTC144EK	NT4.43 SW
	349	DTC144EK	SYSTEM SW-2
	350	DTC144EK	ID
	351	2SC2712	Y BUFF-3
	352	2SC2712	Y CLAMP-2
	355	2SC2712	BLK BUFF
	356	DTC144EK	MODE SW-5
	357	DTC144EK	MODE SW-6
	D4	1S2837	NT3.58 DET
	6	RD5.1MB2	POW CONT
	101	1S2837	SECAM SW
	102	1S2837	MODE SW-1
	103	1S2837	MODE SW-2
	201	V06C	+ 12V PROT
	202	1S2835	SYNC SEP.
	203	1S2835	H.SYNC SW
	204	1S2837	BLK ADD
	206	1S2837	W/B SW-2
	207	1S2837	W/B SW-3
	208	RD3.3MB1	W/B SW-1
	209	RD3.3MB1	NT4.43 SW
	210	1S2837	Y.CLAMP

RVP- 6000QM RM-1270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S-C
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BPF002
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TypeB
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GND
TP1
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C (NTSC)
+12V
-5V
5V
12V
IC002 TDA4555V8
DL101
L104
L105
R-Y
B-Y
DAT
DAR
TH101
RV101
SECAM ON
Q101 DTC144EK
Q102 2SC2712
D101 1S2837
D102 1S2837
D103 1S2837
Q350 DTC144EK
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SECAM ID
Q103 DTC144EK
Q104 DTC144EK
RV102
SUB HUE
X101
X102
3.38M
4.43M
Q106 DTC144EK
Q107 DTC144EK
Q108 DTC144EK
Q356 DTC144EK
Q357 DTC144EK
+15V
POWER CONT
D006 RD5.1M-T1B2
Q018 DTC144EK
Q019 DTC114EK
D208 RD3.3M-T1B1
Q013 DTC144EK
D206 1S2837
D207 1S2837
D004 1S2837
Q012 DTC144EK
Q014 2SC2712
Q015 2SC2712
Q016 DTC144EK
Q017 DTC144EK
DYNAMIC PIC SW
Q201 2SD774
IC003 CXA-1216P
ABL IN
ABL FIL
PEAKING
AUTO PED
SHARP OUT
Y IN
B-Y IN
R-Y IN
CLAMP DET
CLAMP
BLK 2
BLK 1
B OUT
BS/H
G OUT
GS/H
R OUT
RS/H
IN SW
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COL
PIX
VCC
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SUB BRT
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HUE. ADJ
SUB COL
RV204
RV205
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Q213 2SC2712
Q214 2SK160
Q215 2SC2712
Q216 2SK160
Q217 2SC2712
Q218 2SA1162
Q219 2SA1162
Q203 2SA1162
Q202 2SA1162
IC005 HD14053BP
IC006 TC74HC157AP
IC007 TC74HC27AP
SCP
TP7
S.C.P
IC004 TDA2595
Q204 2SA1162
Q205 2SC2712
H. FREQ
RV202
Q206 2SC2712
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D203 1S2835
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Q208 2SC2712
Q209 2SC2712
Q210 2SA1162
TP8
TP9
TP10
R
G
B
+5V
D210 1S2837
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Q352 2SC2712
D209 RD3.3M-T1B1
Q347 DTC144EK
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V. SYNC
H. SYNC
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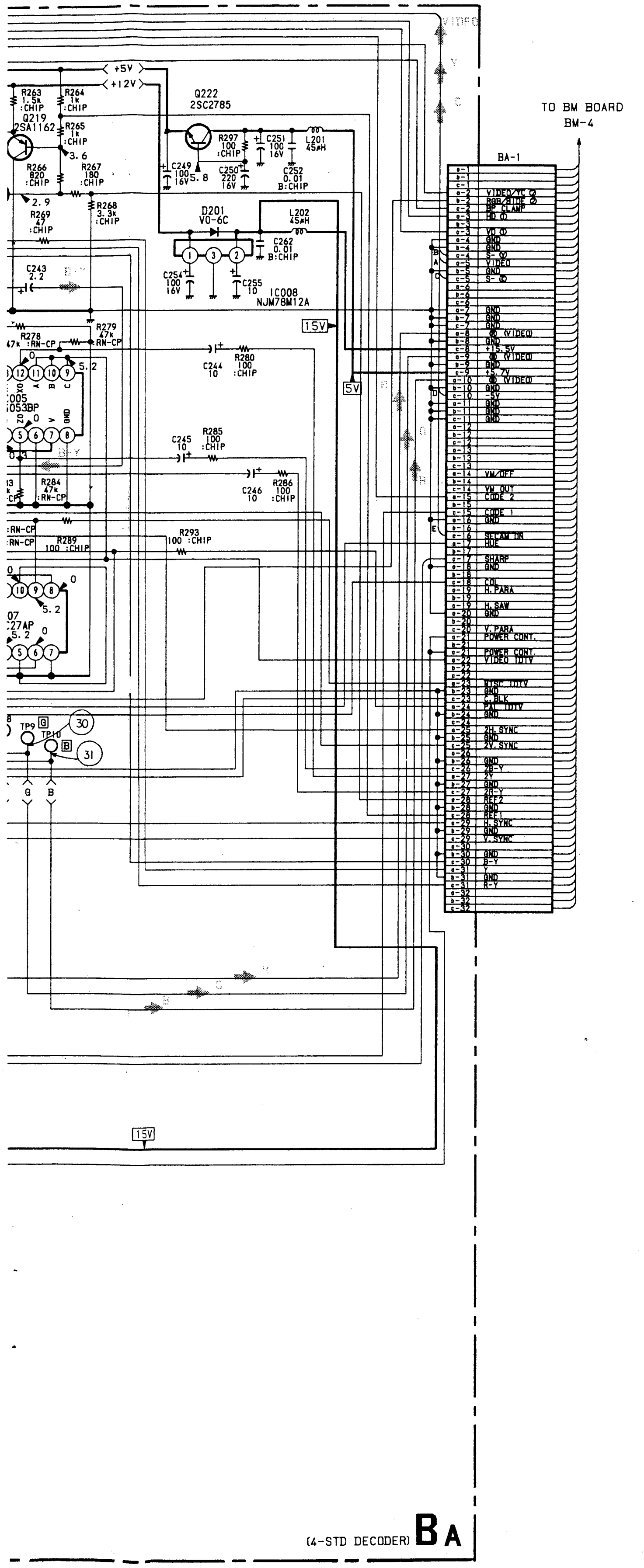

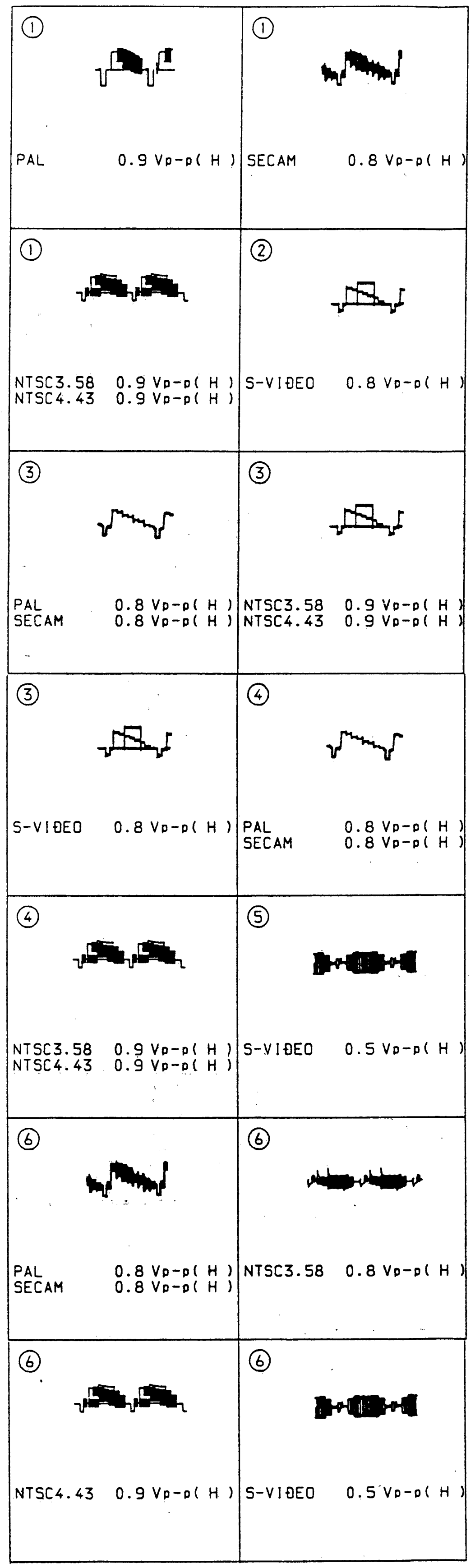

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① SECAM 0.8 Vp-p(H)

① NTSC3.58 0.9 Vp-p(H)
NTSC4.43 0.9 Vp-p(H)

② S-VIDEO 0.8 Vp-p(H)

③ PAL 0.8 Vp-p(H)
SECAM 0.8 Vp-p(H)

③ NTSC3.58 0.9 Vp-p(H)
NTSC4.43 0.9 Vp-p(H)

③ S-VIDEO 0.8 Vp-p(H)

④ PAL 0.8 Vp-p(H)
SECAM 0.8 Vp-p(H)

④ NTSC3.58 0.9 Vp-p(H)
NTSC4.43 0.9 Vp-p(H)

⑤ S-VIDEO 0.5 Vp-p(H)

⑥ PAL 0.8 Vp-p(H)
SECAM 0.8 Vp-p(H)

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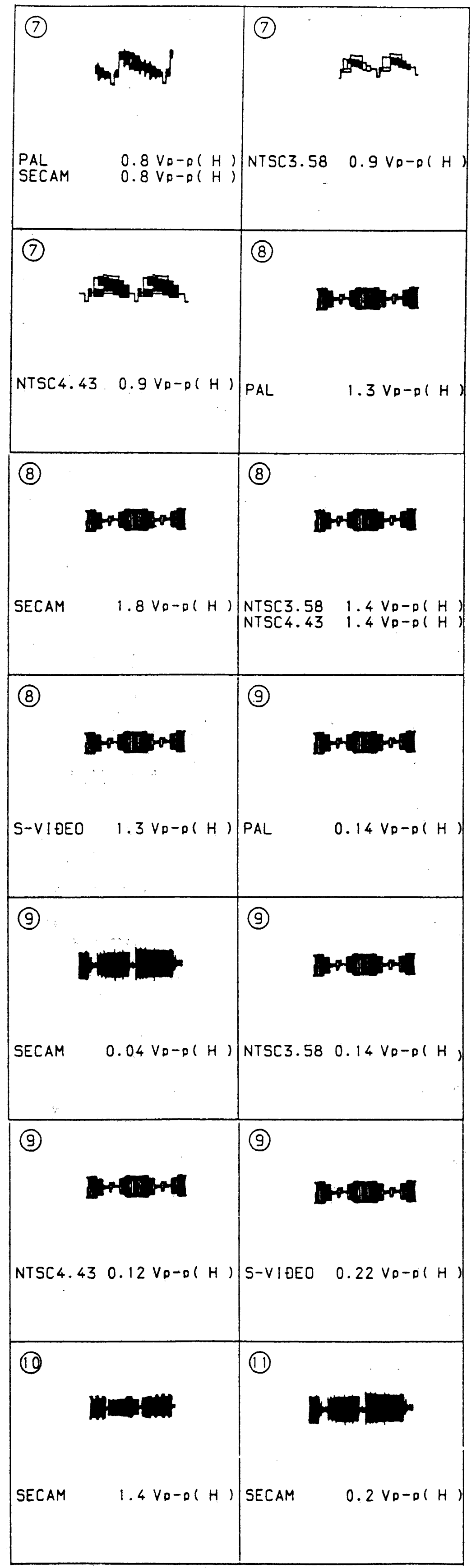
⑥ NTSC4.43 0.9 Vp-p(H)

⑥ S-VIDEO 0.5 Vp-p(H)



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⑦ NTSC3.58 0.9 Vp-p(H)

⑦ NTSC4.43 0.9 Vp-p(H)

⑧ PAL 1.3 Vp-p(H)

⑧ SECAM 1.8 Vp-p(H)

⑧ NTSC3.58 1.4 Vp-p(H)
NTSC4.43 1.4 Vp-p(H)

⑧ S-VIDEO 1.3 Vp-p(H)

⑨ PAL 0.14 Vp-p(H)

⑨ SECAM 0.04 Vp-p(H)

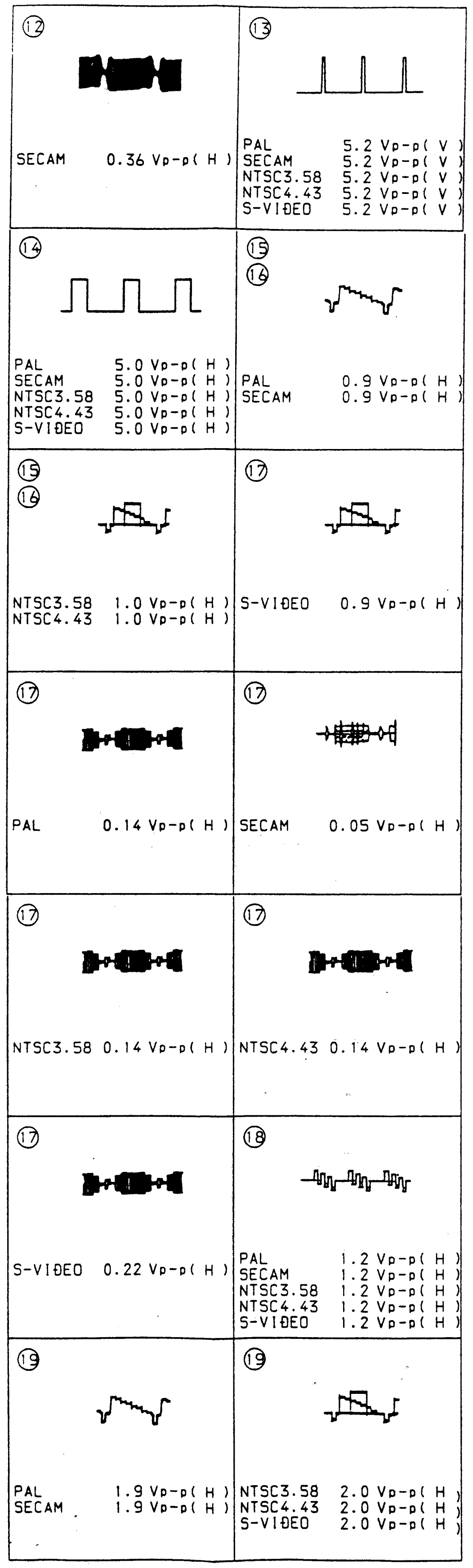
⑨ NTSC3.58 0.14 Vp-p(H)

⑨ NTSC4.43 0.12 Vp-p(H)

⑨ S-VIDEO 0.22 Vp-p(H)

⑩ SECAM 1.4 Vp-p(H)

⑪ SECAM 0.2 Vp-p(H)



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NTSC3.58 5.2 Vp-p(V)
NTSC4.43 5.2 Vp-p(V)
S-VIDEO 5.2 Vp-p(V)

⑭ PAL 5.0 Vp-p(H)
SECAM 5.0 Vp-p(H)
NTSC3.58 5.0 Vp-p(H)
NTSC4.43 5.0 Vp-p(H)
S-VIDEO 5.0 Vp-p(H)

⑮ ⑯ PAL 0.9 Vp-p(H)
SECAM 0.9 Vp-p(H)

⑮ ⑯ NTSC3.58 1.0 Vp-p(H)
NTSC4.43 1.0 Vp-p(H)

⑰ S-VIDEO 0.9 Vp-p(H)

⑰ PAL 0.14 Vp-p(H)

⑰ SECAM 0.05 Vp-p(H)

⑰ NTSC3.58 0.14 Vp-p(H)

⑰ NTSC4.43 0.14 Vp-p(H)

⑰ S-VIDEO 0.22 Vp-p(H)

⑱ PAL 1.2 Vp-p(H)
SECAM 1.2 Vp-p(H)
NTSC3.58 1.2 Vp-p(H)
NTSC4.43 1.2 Vp-p(H)
S-VIDEO 1.2 Vp-p(H)

⑲ PAL 1.9 Vp-p(H)
SECAM 1.9 Vp-p(H)

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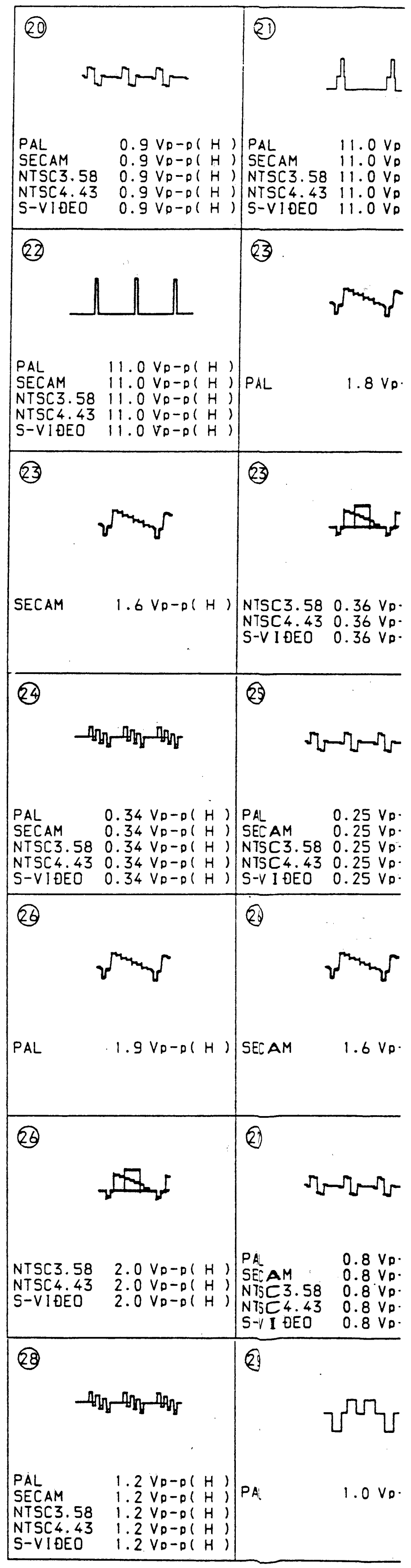

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NTSC4.43 0.9 Vp-p(H)
S-VIDEO 0.9 Vp-p(H)

㉑ PAL 11.0 Vp
SECAM 11.0 Vp
NTSC3.58 11.0 Vp
NTSC4.43 11.0 Vp
S-VIDEO 11.0 Vp

㉒ PAL 11.0 Vp-p(H)
SECAM 11.0 Vp-p(H)
NTSC3.58 11.0 Vp-p(H)
NTSC4.43 11.0 Vp-p(H)
S-VIDEO 11.0 Vp-p(H)

㉓ PAL 1.8 Vp-

㉓ SECAM 1.6 Vp-p(H)

㉓ NTSC3.58 0.36 Vp-
NTSC4.43 0.36 Vp-
S-VIDEO 0.36 Vp-

㉔ PAL 0.34 Vp-p(H)
SECAM 0.34 Vp-p(H)
NTSC3.58 0.34 Vp-p(H)
NTSC4.43 0.34 Vp-p(H)
S-VIDEO 0.34 Vp-p(H)

㉕ PAL 0.25 Vp-
SECAM 0.25 Vp-
NTSC3.58 0.25 Vp-
NTSC4.43 0.25 Vp-
S-VIDEO 0.25 Vp-

㉖ PAL 1.9 Vp-p(H)

㉖ SECAM 1.6 Vp-

㉖ NTSC3.58 2.0 Vp-p(H)
NTSC4.43 2.0 Vp-p(H)
S-VIDEO 2.0 Vp-p(H)

㉗ PAL 0.8 Vp-
SECAM 0.8 Vp-
NTSC3.58 0.8 Vp-
NTSC4.43 0.8 Vp-
S-VIDEO 0.8 Vp-

㉘ PAL 1.2 Vp-p(H)
SECAM 1.2 Vp-p(H)
NTSC3.58 1.2 Vp-p(H)
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S-VIDEO 1.2 Vp-p(H)

㉙ PAL 1.0 Vp-

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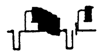
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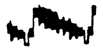
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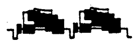
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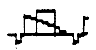
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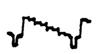
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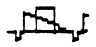
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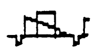
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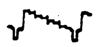
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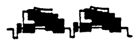
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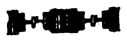
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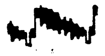
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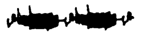
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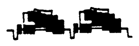
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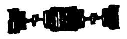
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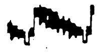
⑦

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SECAM 0.8 Vp-p(H)

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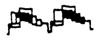
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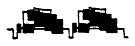
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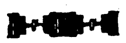
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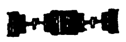
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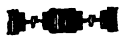
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NTSC4.43 1.4 Vp-p(H)

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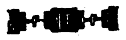
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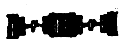
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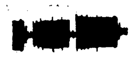
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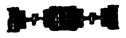
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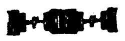
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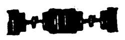
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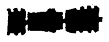
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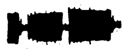
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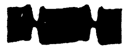
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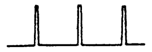
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SECAM 5.2 Vp-p(V)
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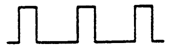
NTSC4.43 5.2 Vp-p(V)
S-VIDEO 5.2 Vp-p(V)

⑭

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SECAM 5.0 Vp-p(H)
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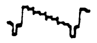
NTSC4.43 5.0 Vp-p(H)
S-VIDEO 5.0 Vp-p(H)

⑮
⑯

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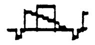
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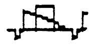
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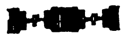
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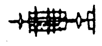
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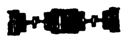
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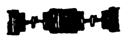
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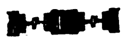
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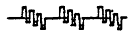
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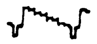
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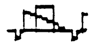
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S-VIDEO 2.0 Vp-p(H)

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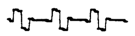
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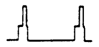
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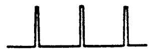
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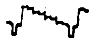
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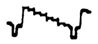
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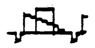
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S-VIDEO 0.36 Vp-p(H)

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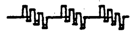
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S-VIDEO 0.34 Vp-p(H)

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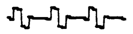
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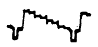
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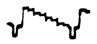
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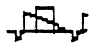
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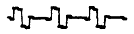
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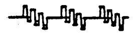
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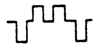
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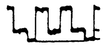
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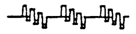
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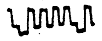
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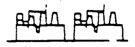
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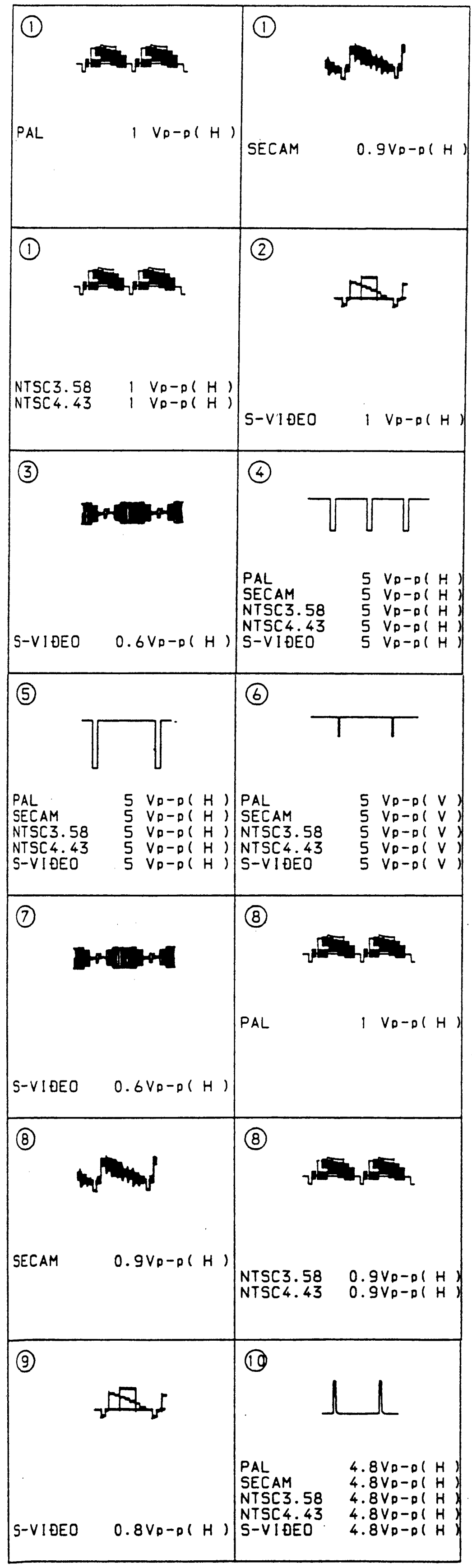
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①
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①
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NTSC4.43 1 Vp-p(H)
②
S-VIDEO 1 Vp-p(H)
③
S-VIDEO 0.6Vp-p(H)
④
PAL 5 Vp-p(H)
SECAM 5 Vp-p(H)
NTSC3.58 5 Vp-p(H)
NTSC4.43 5 Vp-p(H)
S-VIDEO 5 Vp-p(H)
⑤
PAL 5 Vp-p(H)
SECAM 5 Vp-p(H)
NTSC3.58 5 Vp-p(H)
NTSC4.43 5 Vp-p(H)
S-VIDEO 5 Vp-p(H)
⑥
PAL 5 Vp-p(V)
SECAM 5 Vp-p(V)
NTSC3.58 5 Vp-p(V)
NTSC4.43 5 Vp-p(V)
S-VIDEO 5 Vp-p(V)
⑦
S-VIDEO 0.6Vp-p(H)
⑧
PAL 1 Vp-p(H)
⑧
SECAM 0.9Vp-p(H)
⑧
NTSC3.58 0.9Vp-p(H)
NTSC4.43 0.9Vp-p(H)
⑨
S-VIDEO 0.8Vp-p(H)
⑩
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SECAM 4.8Vp-p(H)
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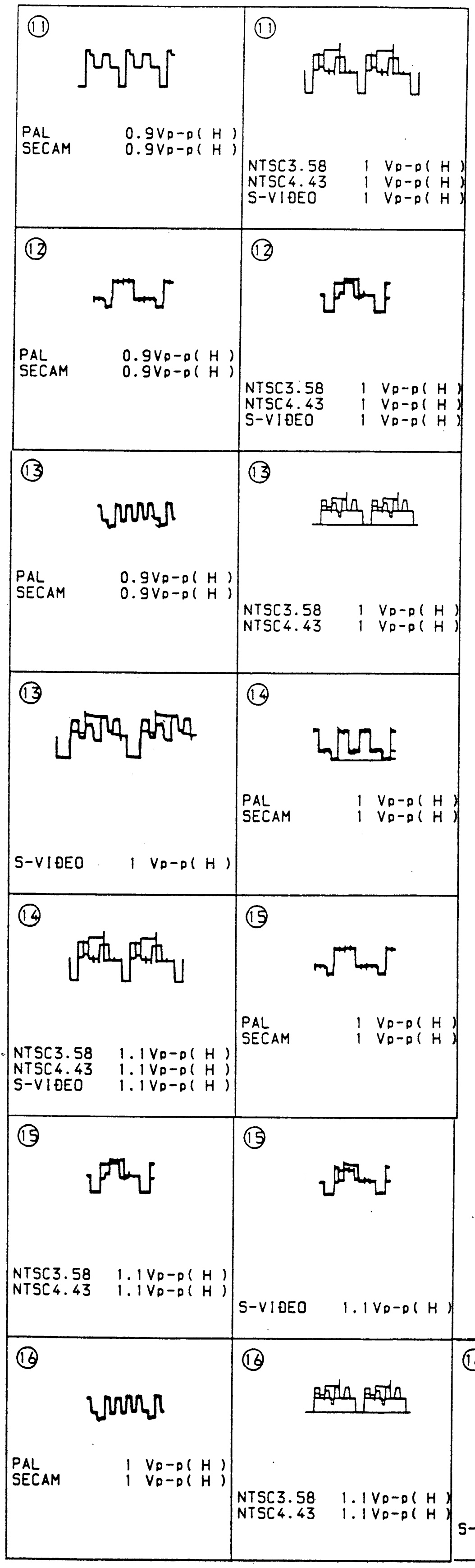
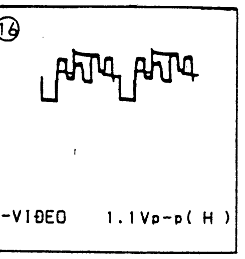
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S-VIDEO 1 Vp-p(H)
⑫
PAL 0.9Vp-p(H)
SECAM 0.9Vp-p(H)
⑫
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⑬
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⑬
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⑭
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SECAM 1 Vp-p(H)
⑭
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S-VIDEO 1.1Vp-p(H)
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⑮
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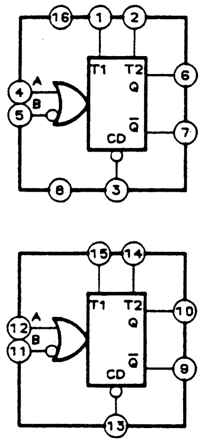
⑯
S-VIDEO 1.1Vp-p(H)

IC413 μPC74HC4538N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T1
T2
Q
Q̄
CD
A
B
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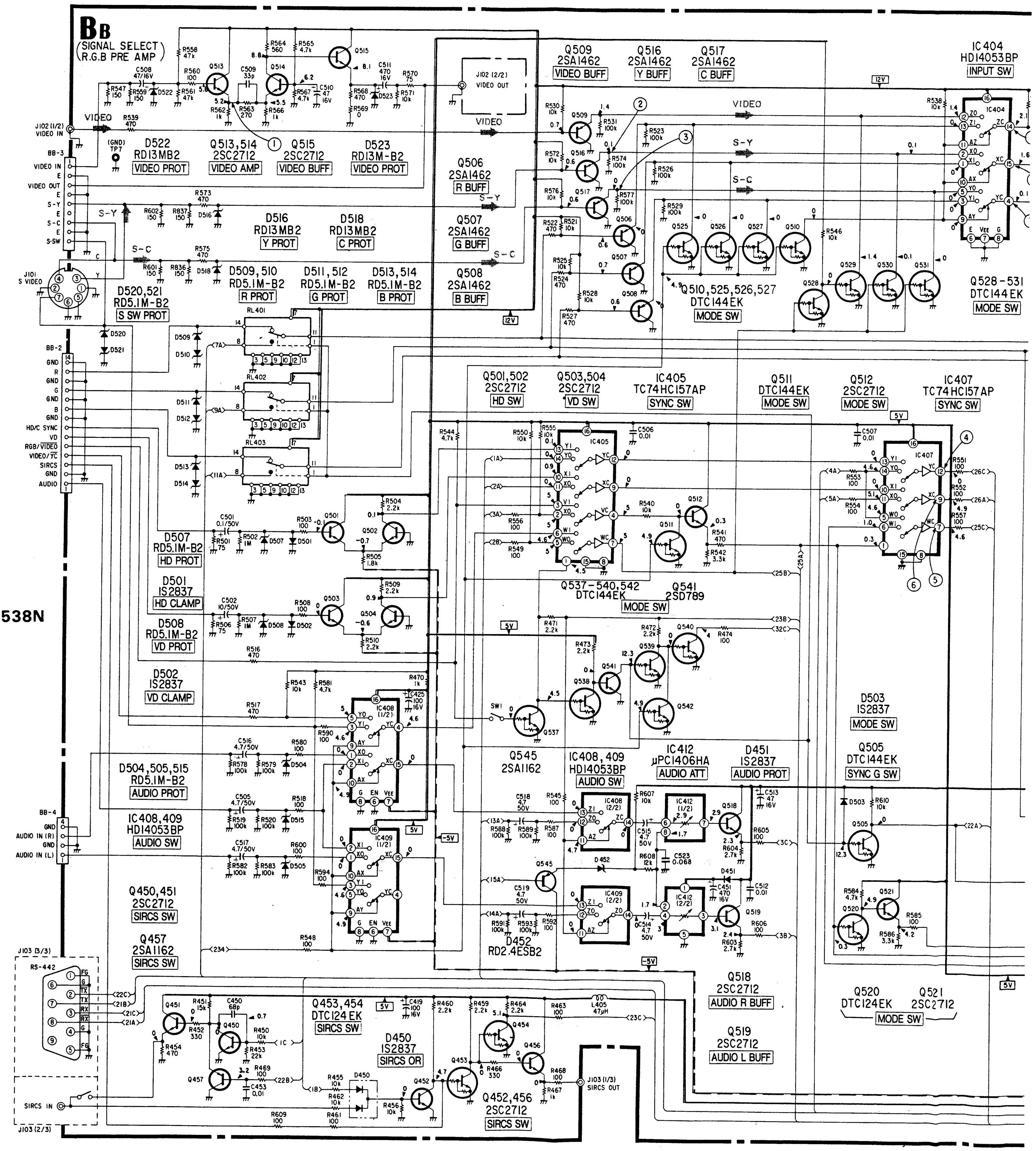
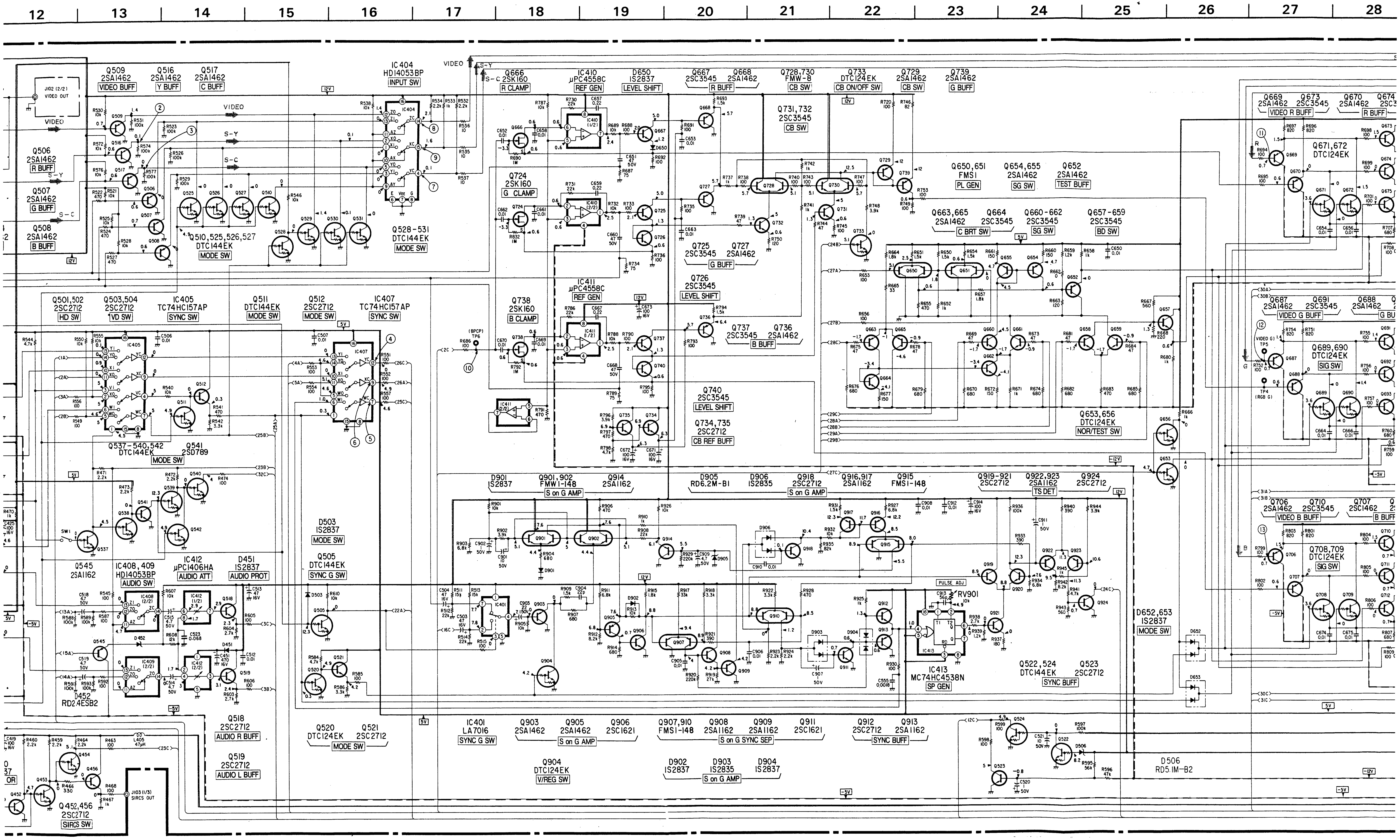

BB
(SIGNAL SELECT)
(R.G.B PRE AMP)
J102 (1/2) VIDEO IN
BB-3
J101 S VIDEO
BB-2
BB-4
AUDIO IN (R)
AUDIO IN (L)
J103 (3/3)
RS-442
SIRCS IN
J103 (2/3)
J102 (2/2) VIDEO OUT
D522 RD13MB2 VIDEO PROT
Q513,514 2SC2712 VIDEO AMP
Q515 2SC2712 VIDEO BUFF
D523 RD13M-B2 VIDEO PROT
D516 RD13MB2 Y PROT
D518 RD13MB2 C PROT
D509,510 RD5.1M-B2 R PROT
D511,512 RD5.1M-B2 G PROT
D513,514 RD5.1M-B2 B PROT
D520,521 RD5.1M-B2 S SW PROT
Q509 2SA1462 VIDEO BUFF
Q516 2SA1462 Y BUFF
Q517 2SA1462 C BUFF
Q506 2SA1462 R BUFF
Q507 2SA1462 G BUFF
Q508 2SA1462 B BUFF
Q510,525,526,527 DTC144EK MODE SW
Q528-531 DTC144EK MODE SW
IC404 HD14053BP INPUT SW
Q501,502 2SC2712 HD SW
Q503,504 2SC2712 VD SW
IC405 TC74HC157AP SYNC SW
Q511 DTC144EK MODE SW
Q512 2SC2712 MODE SW
IC407 TC74HC157AP SYNC SW
D507 RD5.1M-B2 HD PROT
D501 1S2837 HD CLAMP
D508 RD5.1M-B2 VD PROT
D502 1S2837 VD CLAMP
Q537-540,542 DTC144EK MODE SW
Q541 2SD789
D503 1S2837 MODE SW
Q505 DTC144EK SYNC G SW
D504,505,515 RD5.1M-B2 AUDIO PROT
IC408,409 HD14053BP AUDIO SW
Q545 2SA1162
IC412 μPC1406HA AUDIO ATT
D451 1S2837 AUDIO PROT
D452 RD2.4ESB2
Q450,451 2SC2712 SIRCS SW
Q457 2SA1162 SIRCS SW
Q453,454 DTC124EK SIRCS SW
D450 1S2837 SIRCS OR
Q452,456 2SC2712 SIRCS SW
Q518 2SC2712 AUDIO R BUFF
Q519 2SC2712 AUDIO L BUFF
Q520 DTC124EK
Q521 2SC2712
MODE SW
J103 (1/3) SIRCS OUT
VIDEO
S-Y
S-C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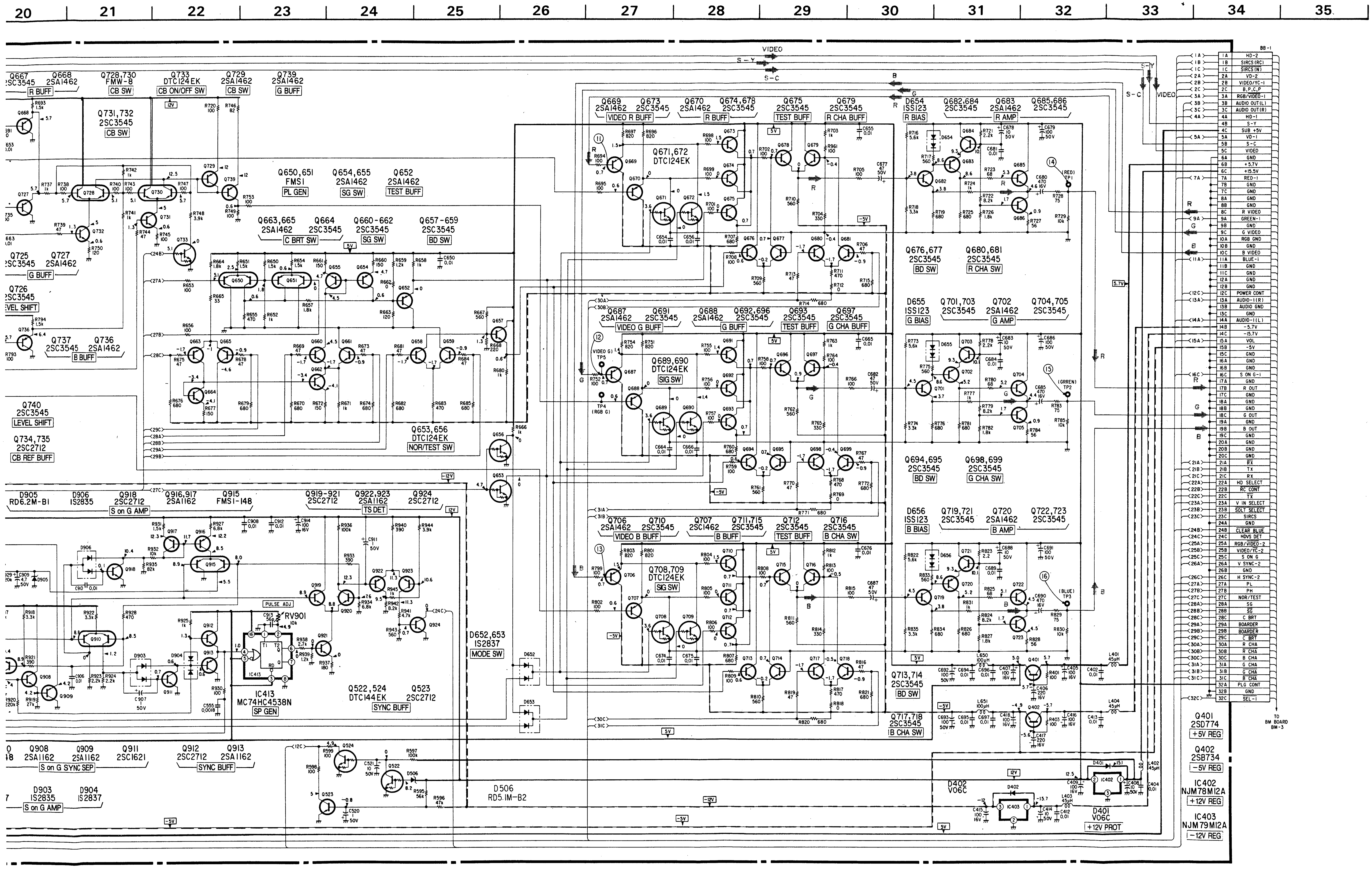
J102 (2/2) VIDEO OUT
VIDEO
Q509 2SA1462 VIDEO BUFF
Q516 2SA1462 Y BUFF
Q517 2SA1462 C BUFF
Q506 2SA1462 R BUFF
Q507 2SA1462 G BUFF
Q508 2SA1462 B BUFF
S-Y
S-C
IC404 HD14053BP INPUT SW
Q510,525,526,527 DTC144EK MODE SW
Q528-531 DTC144EK MODE SW
Q666 2SK160 R CLAMP
IC410 μPC4558C REF GEN
D650 1S2837 LEVEL SHIFT
Q667 2SC3545
Q668 2SA1462
R BUFF
Q728,730 FMW-8 CB SW
Q733 DTC124EK CB ON/OFF SW
Q729 2SA1462 CB SW
Q739 2SA1462 G BUFF
Q731,732 2SC3545 CB SW
Q724 2SK160 G CLAMP
Q725 2SC3545
Q727 2SA1462
G BUFF
Q726 2SC3545 LEVEL SHIFT
Q650,651 FMS1 PL GEN
Q654,655 2SA1462 SG SW
Q652 2SA1462 TEST BUFF
Q663,665 2SA1462
Q664 2SC3545
C BRT SW
Q660-662 2SC3545 SG SW
Q657-659 2SC3545 BD SW
Q669 2SA1462
Q673 2SC3545
VIDEO R BUFF
Q670 2SA1462
Q674
R BUFF
Q671,672 DTC124EK
Q501,502 2SC2712 HD SW
Q503,504 2SC2712 VD SW
IC405 TC74HC157AP SYNC SW
Q511 DTC144EK MODE SW
Q512 2SC2712 MODE SW
IC407 TC74HC157AP SYNC SW
Q738 2SK160 B CLAMP
IC411 μPC4558C REF GEN
Q737 2SC3545
Q736 2SA1462
B BUFF
Q740 2SC3545 LEVEL SHIFT
Q734,735 2SC2712 CB REF BUFF
Q653,656 DTC124EK NOR/TEST SW
Q687 2SA1462
Q691 2SC3545
VIDEO G BUFF
Q688 2SA1462
G BU
Q689,690 DTC124EK SIG SW
VIDEO G TP5
TP4 (RGB G)
Q537-540,542 DTC144EK
Q541 2SD789
MODE SW
D503 1S2837 MODE SW
Q505 DTC144EK SYNC G SW
Q545 2SA1162
SW1
IC408,409 HD14053BP AUDIO SW
IC412 μPC1406HA AUDIO ATT
D451 1S2837 AUDIO PROT
D452 RD2.4ESB2
Q518 2SC2712 AUDIO R BUFF
Q519 2SC2712 AUDIO L BUFF
Q520 DTC124EK
Q521 2SC2712
MODE SW
D901 1S2837
Q901,902 FMW1-148
Q914 2SA1162
S on G AMP
D905 RD6.2M-B1
D906 1S2835
Q918 2SC2712
S on G AMP
Q916,917 2SA1162
Q915 FMS1-148
Q919-921 2SC2712
Q922,923 2SA1162
TS DET
Q924 2SC2712
Q706 2SA1462
Q710 2SC3545
VIDEO B BUFF
Q707 2SC1462
B BUFF
Q708,709 DTC124EK SIG SW
PULSE ADJ
RV901
IC413 MC74HC4538N SP GEN
Q522,524 DTC144EK
Q523 2SC2712
SYNC BUFF
D652,653 1S2837 MODE SW
IC401 LA7016 SYNC G SW
Q903 2SA1462
Q905 2SA1462
Q906 2SC1621
S on G AMP
Q907,910 FMS1-148
Q908 2SA1162
Q909 2SA1162
Q911 2SC1621
S on G SYNC SEP
Q912 2SC2712
Q913 2SA1162
SYNC BUFF
Q904 DTC124EK V/REG SW
D902 1S2837
D903 1S2835
D904 1S2837
S on G AMP
D506 RD5.1M-B2
Q452,456 2SC2712 SIRCS SW
J103 (1/3) SIRCS OUT
(BPCP) TP6
12V
5V
-5V
-12V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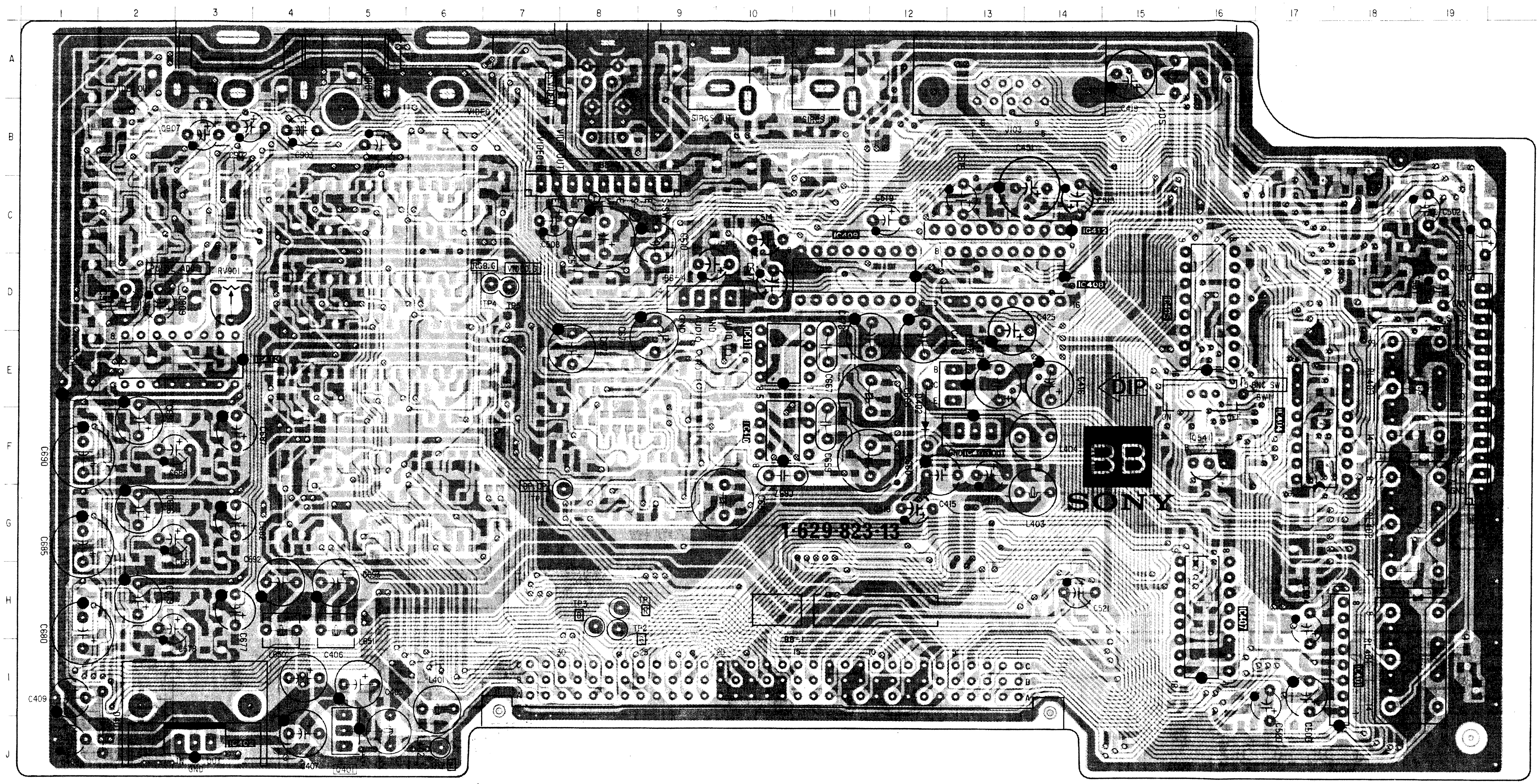
VIDEO
S-Y
S-C
Q667 2SC3545
Q668 2SA1462
R BUFF
Q728,730 FMW-8
CB SW
Q733 DTC124EK
CB ON/OFF SW
Q729 2SA1462
CB SW
Q739 2SA1462
G BUFF
Q731,732 2SC3545
CB SW
Q650,651 FMS1
PL GEN
Q654,655 2SA1462
SG SW
Q652 2SA1462
TEST BUFF
Q663,665 2SA1462
C BRT SW
Q664 2SC3545
Q660-662 2SC3545
SG SW
Q657-659 2SC3545
BD SW
Q725 2SC3545
Q727 2SA1462
G BUFF
Q726 2SC3545
LEVEL SHIFT
Q737 2SC3545
Q736 2SA1462
B BUFF
Q740 2SC3545
LEVEL SHIFT
Q734,735 2SC2712
CB REF BUFF
Q653,656 DTC124EK
NOR/TEST SW
Q669 2SA1462
Q673 2SC3545
VIDEO R BUFF
Q670 2SA1462
Q674,678 2SC3545
R BUFF
Q675 2SC3545
TEST BUFF
Q679 2SC3545
R CHA BUFF
D654 1SS123
R BIAS
Q682,684 2SC3545
Q683 2SA1462
R AMP
Q685,686 2SC3545
Q671,672 DTC124EK
Q676,677 2SC3545
BD SW
Q680,681 2SC3545
R CHA SW
Q687 2SA1462
Q691 2SC3545
VIDEO G BUFF
Q688 2SA1462
Q692,696 2SC3545
G BUFF
Q693 2SC3545
TEST BUFF
Q697 2SC3545
G CHA BUFF
D655 1SS123
G BIAS
Q701,703 2SC3545
Q702 2SA1462
G AMP
Q704,705 2SC3545
Q689,690 DTC124EK
SIG SW
Q694,695 2SC3545
BD SW
Q698,699 2SC3545
G CHA SW
Q706 2SA1462
Q710 2SC3545
VIDEO B BUFF
Q707 2SC1462
Q711,715 2SC3545
B BUFF
Q712 2SC3545
TEST BUFF
Q716 2SC3545
B CHA SW
D656 1SS123
B BIAS
Q719,721 2SC3545
Q720 2SA1462
B AMP
Q722,723 2SC3545
Q708,709 DTC124EK
SIG SW
Q713,714 2SC3545
BD SW
Q717,718 2SC3545
B CHA SW
D652,653 1S2837
MODE SW
D905 RD6.2M-B1
D906 1S2835
Q918 2SC2712
S on G AMP
Q916,917 2SA1162
Q915 FMS1-148
Q919-921 2SC2712
Q922,923 2SA1162
TS DET
Q924 2SC2712
PULSE ADJ
RV901
IC413 MC74HC4538N
SP GEN
Q522,524 DTC144EK
Q523 2SC2712
SYNC BUFF
Q908 2SA1162
Q909 2SA1162
Q911 2SC1621
S on G SYNC SEP
Q912 2SC2712
Q913 2SA1162
SYNC BUFF
D903 1S2835
D904 1S2837
S on G AMP
D506 RD5.1M-B2
D402 V06C
D401 V06C
+12V PROT
Q401 2SD774
+5V REG
Q402 2SB734
-5V REG
IC402 NJM78M12A
+12V REG
IC403 NJM79M12A
-12V REG
TP1 (RED)
TP2 (GREEN)
TP3 (BLUE)
TP4 (RGB G)
TP5 (VIDEO G)
BB-1
TO BM BOARD BM-3
1A HD-2
1B SIRCS(RC)
1C SIRCS(IN)
2A VD-2
2B VIDEO/YC-1
2C B.P.C.P
3A RGB/VIDEO-1
3B AUDIO OUT(L)
3C AUDIO OUT(R)
4A HD-1
4B S-Y
4C SUB +5V
5A VD-1
5B S-C
5C VIDEO
6A GND
6B +5.7V
6C +15.5V
7A RED-1
7B GND
7C GND
8A GND
8B GND
8C R VIDEO
9A GREEN-1
9B GND
9C G VIDEO
10A RGB GND
10B GND
10C B VIDEO
11A BLUE-1
11B GND
11C GND
12A GND
12B GND
12C POWER CONT
13A AUDIO-1(R)
13B AUDIO GND
13C GND
14A AUDIO-1(L)
14B -5.7V
14C -15.7V
15A VOL
15B -5V
15C GND
16A GND
16B GND
16C S ON G-1
17A GND
17B R OUT
17C GND
18A GND
18B GND
18C G OUT
19A GND
19B B OUT
19C GND
20A GND
20B GND
20C GND
21A RX
21B TX
21C RX
22A HD SELECT
22B RC CONT
22C TX
23A V IN SELECT
23B SOLT SELECT
23C SIRCS
24A GND
24B CLEAR BLUE
24C HDVS DET
25A RGB/VIDEO-2
25B VIDEO/YC-2
25C S ON G
26A V SYNC-2
26B GND
26C H SYNC-2
27A PL
27B PH
27C NOR/TEST
28A SG
28B SG
28C C BRT
29A BOARDER
29B BOARDER
29C C BRT
30A R CHA
30B R CHA
30C B CHA
31A G CHA
31B G CHA
31C B CHA
32A PLG CONT
32B GND
32C SEL-1

BB [SIGNAL SELECT, R. G. B. PRE AMP]

– BB BOARD – (COMPONENT SIDE)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I
J
BB
SONY
1-629-823-13
DIP
RV901
C409
C693
C698
C690
C415
C425
C521
L403
L404
L401
TP4
TP1
TP2
TP3
GND
VIDEO
IC409
IC412
IC408
IC407
IC410
IC411

IC•No.	PIN•No.	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
404	②	0.1	0.1	0.1	0.1	1.7
	④	0.1	0.8	0.8	0.8	2.8
	⑤	0	0	0	0	1.4
	⑫	1.4	1.6	1.4	1.4	0
	⑭	2.2	2.2	2.2	2.2	0.8
	⑮	1.6	1.6	1.6	1.6	3
405	⑥	4.6	4.6	4.6	4.6	0
	⑦	5	5	5	5	0
	⑬	0.1	0.1	0.1	0.1	0.8
407	⑤	4.6	4.9	4.8	4.8	4.8
408	③	4.6	4.6	4.6	4.6	0
	④	4.6	4.6	4.6	4.6	0
409	③	4.6	4.6	4.6	4.6	0

Q•No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
509	B	–	–	–	–	–
	C	–	–	–	–	–
	E	1.4	1.6	1.4	1.4	0
516	B	–	–	–	–	–
	C	–	–	–	–	–
	E	0.1	0.1	0.1	0.1	1.7
517	B	–	–	–	–	–
	C	–	–	–	–	–
	E	0	0	0	0	1.4
528	B	5	5	5	5	0
	C	0	0	0	0	4.1
	E	–	–	–	–	–
529	B	–	–	–	–	–
	C	1.4	1.6	1.4	1.4	0
	E	–	–	–	–	–

Q•No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
530	B	–	–	–	–	–
	C	0.1	0.1	0.1	0.1	1.7
	E	–	–	–	–	–
531	B	–	–	–	–	–
	C	0	0	0	0	1.4
	E	–	–	–	–	–
650	1	–	–	–	–	–
	2	–	–	–	–	–
	3	5.1	5.1	5.1	5.1	1.8
	4	–	–	–	–	–
	5	1.8	1.8	1.8	1.8	5.1
		–	–	–	–	–
651	1	–	–	–	–	–
	2	–	–	–	–	–
	3	0.8	1.8	1.8	1.8	0
	4	–	–	–	–	–
	5	0	0	0	0	1.8
		–	–	–	–	–

Q•No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
654	B	4.4	6.3	6.2	4.3	4.9
	C	–	–	–	–	–
	E	–	–	–	–	–
655	B	4.4	6.3	6.2	4.3	4.9
	C	4.4	6.3	6.2	4.3	4.9
	E	–	–	–	–	–
660	B	–	–	–	–	–
	C	4.5	6.3	6.2	4.3	5.9
	E	–	–	–	–	–
739	B	–	–	–	–	–
	C	0.6	0.6	0.6	0.6	12
	E	12	12	12	12	0.6
740	B	–	–	–	–	–
	C	–	–	–	–	–
	E	6.4	0.6	6.4	0.6	0.6

BB BO

D

IC401
IC402
IC403
IC404
IC405
IC407
IC408
IC409
IC410
IC411
IC412
IC413

TR

D

Q401
Q402
Q450
Q451
Q452
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Q501
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Q651
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Q654
Q655
Q656
Q657
Q658
Q659
Q660
Q661

BB BOARD

IC

	CON-DUCTOR SIDE	COM-PONENT SIDE
IC401	I - 3	I - 18
IC402	J - 18	J - 3
IC403	F - 8	F - 13
IC404	F - 3	F - 17
IC405	D - 5	D - 16
IC407	H - 5	H - 16
IC408	D - 8	D - 13
IC409	D - 9	D - 11
IC410	F - 10	F - 10
IC411	E - 10	E - 10
IC412	C - 7	C - 13
IC413	E - 18	E - 3

TRANSISTOR

	CON-DUCTOR SIDE	COM-PONENT SIDE
Q401	J - 16	J - 5
Q402	E - 8	E - 13
Q450	A - 9	
Q451	B - 9	
Q452	A - 10	
Q453	A - 10	
Q454	B - 11	
Q456	A - 12	
Q457	B - 9	
Q501	D - 3	
Q502	D - 3	
Q503	C - 3	
Q504	C - 3	
Q505	J - 3	
Q506	H - 4	
Q507	G - 4	
Q508	G - 4	
Q509	E - 3	
Q510	D - 4	
Q511	D - 4	
Q512	C - 4	
Q513	D - 13	
Q514	D - 12	
Q515	C - 12	
Q516	C - 10	
Q517	C - 11	
Q518	C - 8	
Q519	C - 8	
Q520	A - 13	
Q521	B - 13	
Q522	G - 6	
Q523	J - 4	
Q524	H - 6	
Q525	F - 3	
Q526	F - 3	
Q527	D - 2	
Q528	B - 3	
Q529	B - 3	
Q530	C - 3	
Q531	C - 4	
Q537	F - 4	
Q538	F - 5	
Q539	F - 5	
Q540	G - 5	
Q541	F - 5	F - 16
Q542	E - 7	
Q545	D - 7	
Q650	F - 14	
Q651	F - 15	
Q652	G - 14	
Q653	G - 15	
Q654	G - 14	
Q655	G - 15	
Q656	G - 15	
Q657	F - 15	
Q658	F - 16	
Q659	F - 16	
Q660	G - 15	
Q661	G - 16	
Q662	G - 16	
Q663	G - 17	
Q664	G - 16	
Q665	G - 17	
Q666	G - 12	
Q667	G - 11	
Q668	G - 12	
Q669	E - 14	
Q670	E - 14	
Q671	F - 15	
Q672	F - 15	
Q673	E - 15	
Q674	E - 15	
Q675	E - 15	
Q676	E - 16	
Q677	F - 15	
Q678	E - 16	
Q679	E - 16	
Q680	F - 17	
Q681	F - 16	
Q682	H - 18	
Q683	H - 18	
Q684	I - 18	
Q685	I - 19	
Q686	H - 19	
Q687	D - 14	
Q688	D - 14	
Q689	D - 15	
Q690	D - 15	
Q691	D - 14	
Q692	D - 15	
Q693	D - 15	
Q694	D - 16	
Q695	D - 15	
Q696	D - 16	
Q697	D - 16	
Q698	D - 17	
Q699	D - 16	
Q701	G - 18	
Q702	G - 18	
Q703	H - 18	
Q704	G - 19	
Q705	G - 19	
Q706	B - 14	
Q707	C - 14	
Q708	C - 15	
Q709	C - 15	
Q710	C - 15	
Q711	C - 15	
Q712	C - 15	
Q713	C - 16	
Q714	C - 15	
Q715	C - 16	
Q716	C - 16	
Q717	C - 17	
Q718	C - 16	
Q719	F - 18	
Q720	F - 18	
Q721	F - 18	
Q722	F - 19	
Q723	F - 19	
Q724	F - 11	
Q725	F - 11	
Q726	F - 12	
Q727	F - 11	
Q728	F - 12	
Q729	F - 13	
Q730	F - 12	
Q731	E - 13	
Q732	F - 12	
Q733	F - 13	
Q734	E - 12	
Q735	E - 13	
Q736	E - 11	
Q737	E - 11	
Q738	E - 11	
Q739	F - 13	
Q740	E - 12	
Q901	C - 17	
Q902	C - 17	
Q903	A - 17	
Q904	A - 16	
Q905	A - 19	
Q906	A - 19	
Q907	B - 18	
Q908	B - 19	
Q909	B - 19	
Q910	C - 19	
Q911	C - 18	
Q912	D - 17	
Q913	C - 18	
Q914	D - 18	
Q915	D - 18	
Q916	C - 18	
Q917	C - 19	
Q918	C - 19	
Q919	E - 19	
Q920	E - 19	
Q921	E - 18	
Q922	D - 19	
Q923	D - 19	
Q924	C - 19	

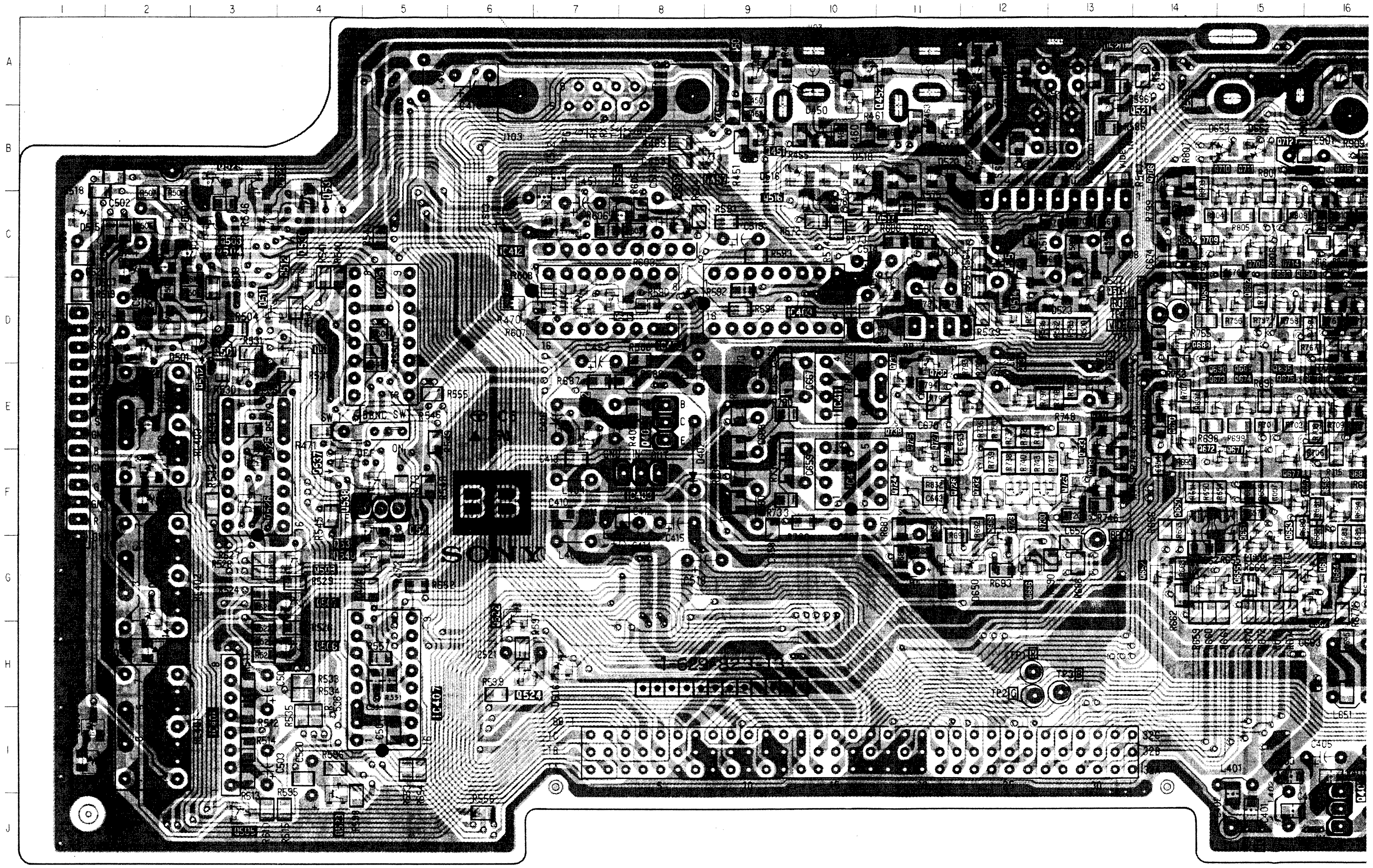
DIODE

	CON-DUCTOR SIDE	COM-PONENT SIDE
D401	J - 19	
D402	F - 8	F - 12
D450	B - 10	
D451	C - 7	
D452	D - 7	
D501	D - 2	
D502	C - 2	
D503	E - 2	
D504	C - 11	
D505	D - 11	
D506	H - 7	
D507	C - 2	
D508	C - 2	
D509	I - 1	
D510	I - 1	
D511	G - 2	
D512	H - 2	
D513	F - 2	
D514	F - 2	
D515	C - 1	
D516	B - 10	
D518	B - 10	
D520	B - 11	
D521	B - 12	
D522	C - 13	
D523	D - 13	
D650	G - 12	
D652	B - 15	
D653	B - 15	
D654	I - 18	
D655	G - 18	
D656	F - 18	
D901	B - 18	
D902	A - 19	
D903	B - 18	
D904	C - 18	
D905	D - 18	
D906	C - 18	

ADJUSTING ELEMENT

	CON-DUCTOR SIDE	COM-PONENT SIDE
RV901	D - 17	D - 3

(CONDUCTOR SIDE)

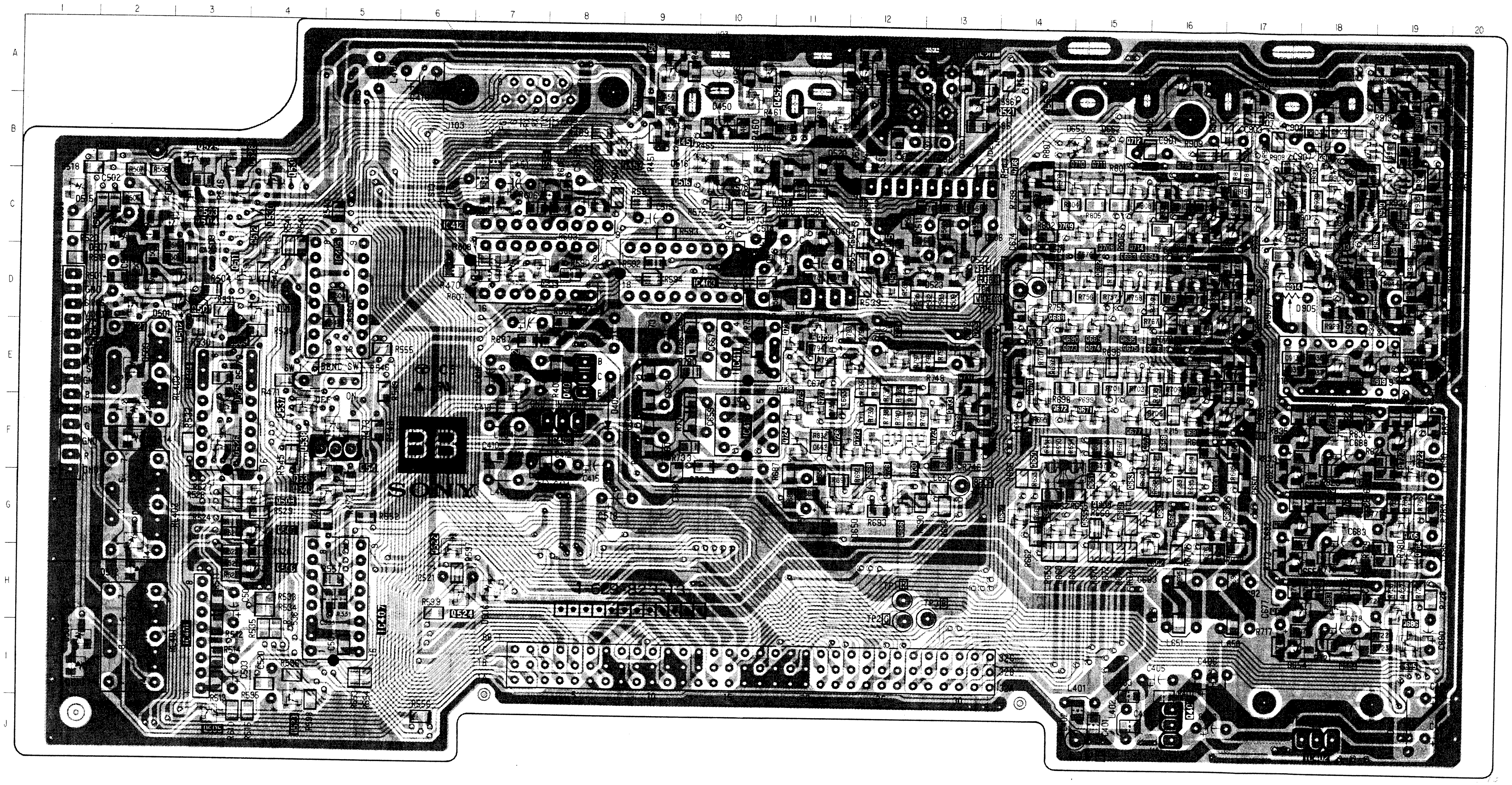


- ▨ : Pattern from the
- ▨ : Pattern of the re

COM-
ONENT
SIDE

(CONDUCTOR SIDE)

COM-
ONENT
SIDE
F - 12


1
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12
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17
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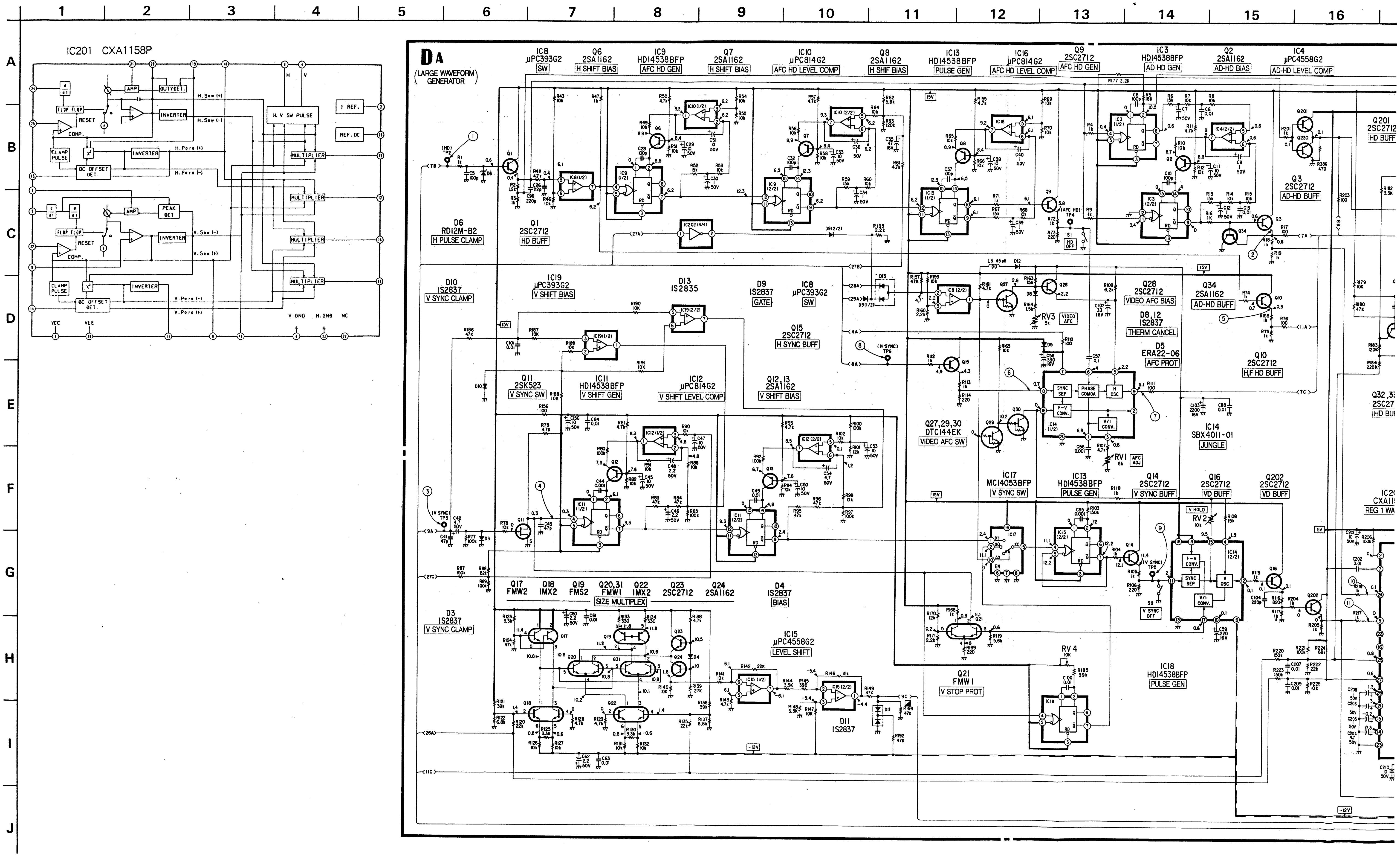
20
A
B
C
D
E
F
G
H
I
J
SONY
BB

COM-
ONENT
SIDE
) - 3

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.


1
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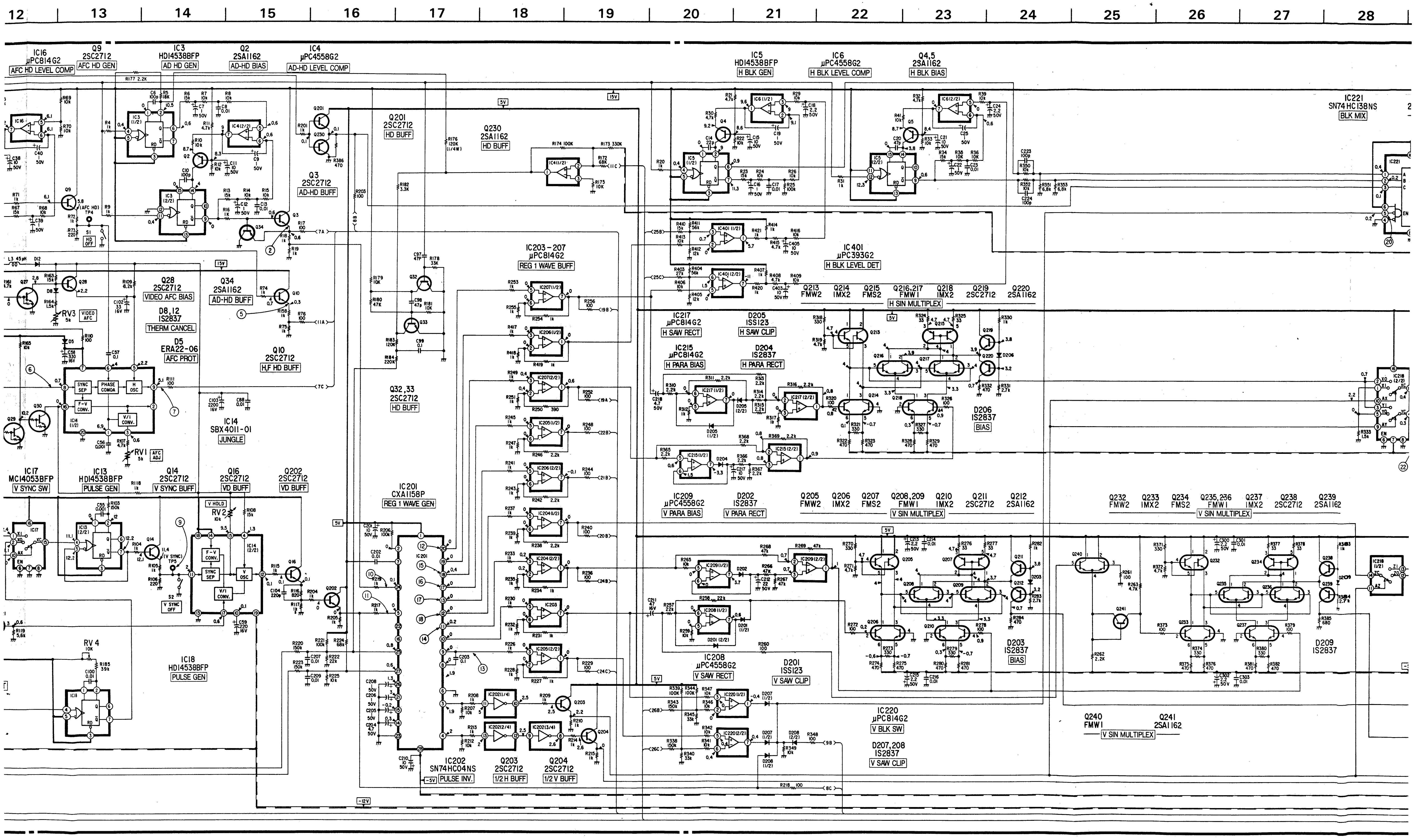
14
15
16
A
B
C
D
E
F
G
H
I
J
IC201 CXA1158P
FLOP FLOP
RESET
COMP.
CLAMP PULSE
DC OFFSET DET.
AMP
OUTYDET.
INVERTER
PEAK DET
H, V SW PULSE
I REF.
REF. DC
MULTIPLIER
H. Sew (+)
H. Sew (−)
H. Para (+)
H. Para (−)
V. Sew (−)
V. Sew (+)
V. Para (−)
V. Para (+)
VCC
VEE
V. GND
H. GND
NC
DA
(LARGE WAVEFORM GENERATOR)
IC8 μPC393G2 SW
Q6 2SA1162 H SHIFT BIAS
IC9 HD14538BFP AFC HD GEN
Q7 2SA1162 H SHIFT BIAS
IC10 μPC814G2 AFC HD LEVEL COMP
Q8 2SA1162 H SHIF BIAS
IC13 HD14538BFP PULSE GEN
IC16 μPC814G2 AFC HD LEVEL COMP
Q9 2SC2712 AFC HD GEN
IC3 HD14538BFP AD HD GEN
Q2 2SA1162 AD-HD BIAS
IC4 μPC4558G2 AD-HD LEVEL COMP
Q201 2SC2712 HD BUFF
Q3 2SC2712 AD-HD BUFF
D6 RD12M-B2 H PULSE CLAMP
Q1 2SC2712 HD BUFF
IC202 (4/4)
D10 1S2837 V SYNC CLAMP
IC19 μPC393G2 V SHIFT BIAS
D13 1S2835
D9 1S2837 GATE
IC8 μPC393G2 SW
Q15 2SC2712 H SYNC BUFF
Q28 2SC2712 VIDEO AFC BIAS
D8, 12 1S2837 THERM CANCEL
D5 ERA22-06 AFC PROT
Q34 2SA1162 AD-HD BUFF
Q10 2SC2712 H,F HD BUFF
RV3 VIDEO AFC
Q11 2SK523 V SYNC SW
IC11 HD14538BFP V SHIFT GEN
IC12 μPC814G2 V SHIFT LEVEL COMP
Q12, 13 2SA1162 V SHIFT BIAS
Q27, 29, 30 DTC144EK VIDEO AFC SW
IC14 SBX4011-01 JUNGLE
SYNC SEP
PHASE COMOA
H OSC
F-V CONV.
V/I CONV.
RV1 AFC ADJ
IC17 MC14053BFP V SYNC SW
IC13 HD14538BFP PULSE GEN
Q14 2SC2712 V SYNC BUFF
Q16 2SC2712 VD BUFF
Q202 2SC2712 VD BUFF
RV2 V HOLD
S2 V SYNC OFF
S1 HD OFF
Q17 FMW2
Q18 IMX2
Q19 FMS2
Q20, 31 FMW1
Q22 IMX2
SIZE MULTIPLEX
Q23 2SC2712
Q24 2SA1162
D4 1S2837 BIAS
D3 1S2837 V SYNC CLAMP
IC15 μPC4558G2 LEVEL SHIFT
D11 1S2837
Q21 FMW1 V STOP PROT
RV4
IC18 HD14538BFP PULSE GEN
IC2 CXA11 REG 1 WA
Q32, 33 2SC27 HD BU
(HD) TP2
(V SYNC) TP3
(H SYNC) TP6
(AFC HD) TP4
(V SYNC) TP5
15V
5V
−12V


12
13
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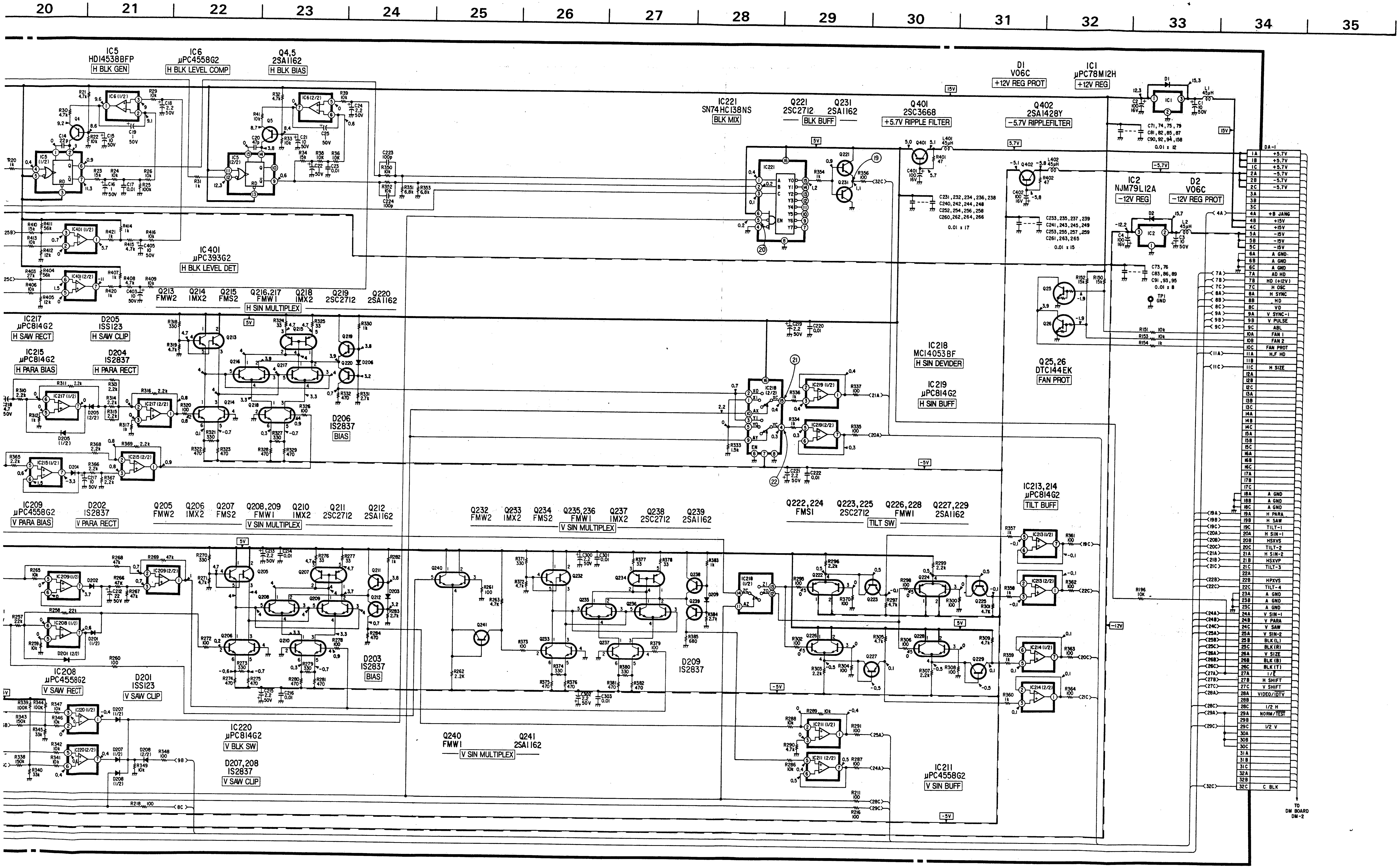
27
28
IC16 µPC814G2 AFC HD LEVEL COMP
Q9 2SC2712 AFC HD GEN
IC3 HD14538BFP AD HD GEN
Q2 2SA1162 AD-HD BIAS
IC4 µPC4558G2 AD-HD LEVEL COMP
Q201 2SC2712 HD BUFF
Q230 2SA1162 HD BUFF
Q3 2SC2712 AD-HD BUFF
IC5 HD14538BFP H BLK GEN
IC6 µPC4558G2 H BLK LEVEL COMP
Q4,5 2SA1162 H BLK BIAS
IC221 SN74HC138NS BLK MIX
IC401 µPC393G2 H BLK LEVEL DET
IC203-207 µPC814G2 REG 1 WAVE BUFF
Q28 2SC2712 VIDEO AFC BIAS
D8,12 1S2837 THERM CANCEL
D5 ERA22-06 AFC PROT
Q34 2SA1162 AD-HD BUFF
Q10 2SC2712 H,F HD BUFF
Q32,33 2SC2712 HD BUFF
IC14 SBX4011-01 JUNGLE
RV3 VIDEO AFC
RV1 AFC ADJ
S1 HD OFF
IC17 MC14053BFP V SYNC SW
IC13 HD14538BFP PULSE GEN
Q14 2SC2712 V SYNC BUFF
Q16 2SC2712 VD BUFF
Q202 2SC2712 VD BUFF
IC201 CXA1158P REG 1 WAVE GEN
V HOLD
RV2
S2 V SYNC OFF
RV4
IC18 HD14538BFP PULSE GEN
IC202 SN74HC04NS PULSE INV.
Q203 2SC2712 1/2 H BUFF
Q204 2SC2712 1/2 V BUFF
IC217 µPC814G2 H SAW RECT
D205 1SS123 H SAW CLIP
IC215 µPC814G2 H PARA BIAS
D204 1S2837 H PARA RECT
Q213 FMW2
Q214 IMX2
Q215 FMS2
Q216,217 FMW1
Q218 IMX2
Q219 2SC2712
Q220 2SA1162
H SIN MULTIPLEX
D206 1S2837 BIAS
IC209 µPC4558G2 V PARA BIAS
D202 1S2837 V PARA RECT
Q205 FMW2
Q206 IMX2
Q207 FMS2
Q208,209 FMW1
Q210 IMX2
Q211 2SC2712
Q212 2SA1162
V SIN MULTIPLEX
D203 1S2837 BIAS
IC208 µPC4558G2 V SAW RECT
D201 1SS123 V SAW CLIP
IC220 µPC814G2 V BLK SW
D207,208 1S2837 V SAW CLIP
Q232 FMW2
Q233 IMX2
Q234 FMS2
Q235,236 FMW1
Q237 IMX2
Q238 2SC2712
Q239 2SA1162
V SIN MULTIPLEX
Q240 FMW1
Q241 2SA1162
V SIN MULTIPLEX
D209 1S2837
IC218
5V
15V
-5V
-12V


20
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31
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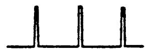
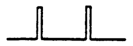
33
34
35
IC5
HD14538BFP
H BLK GEN
IC6
µPC4558G2
H BLK LEVEL COMP
Q4,5
2SA1162
H BLK BIAS
IC401
µPC393G2
H BLK LEVEL DET
IC221
SN74HC138NS
BLK MIX
Q221
2SC2712
Q231
2SA1162
BLK BUFF
Q401
2SC3668
+5.7V RIPPLE FILTER
D1
V06C
+12V REG PROT
IC1
µPC78M12H
+12V REG
Q402
2SA1428Y
-5.7V RIPPLEFILTER
IC2
NJM79L12A
-12V REG
D2
V06C
-12V REG PROT
Q25,26
DTC144EK
FAN PROT
Q213
FMW2
Q214
IMX2
Q215
FMS2
Q216,217
FMW1
Q218
IMX2
Q219
2SC2712
Q220
2SA1162
H SIN MULTIPLEX
IC217
µPC814G2
H SAW RECT
D205
1SS123
H SAW CLIP
IC215
µPC814G2
H PARA BIAS
D204
1S2837
H PARA RECT
D206
1S2837
BIAS
IC218
MC14053BF
H SIN DEVIDER
IC219
µPC814G2
H SIN BUFF
IC209
µPC4558G2
V PARA BIAS
D202
1S2837
V PARA RECT
Q205
FMW2
Q206
IMX2
Q207
FMS2
Q208,209
FMW1
Q210
IMX2
Q211
2SC2712
Q212
2SA1162
V SIN MULTIPLEX
Q232
FMW2
Q233
IMX2
Q234
FMS2
Q235,236
FMW1
Q237
IMX2
Q238
2SC2712
Q239
2SA1162
V SIN MULTIPLEX
Q222,224
FMS1
Q223,225
2SC2712
Q226,228
FMW1
Q227,229
2SA1162
TILT SW
IC213,214
µPC814G2
TILT BUFF
D203
1S2837
BIAS
D209
1S2837
IC208
µPC4558G2
V SAW RECT
D201
1SS123
V SAW CLIP
IC220
µPC814G2
V BLK SW
D207,208
1S2837
V SAW CLIP
Q240
FMW1
Q241
2SA1162
V SIN MULTIPLEX
IC211
µPC4558G2
V SIN BUFF
15V
5V
5.7V
-5.7V
-5V
-12V
DA-1
TP1
GND
TO
DM BOARD
DM-2

①



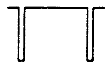
PAL	12 Vp-p(H)
SECAM	12 Vp-p(H)
NTSC3.58	12 Vp-p(H)
NTSC4.43	12 Vp-p(H)
S-VIDEO	12 Vp-p(H)
HDTV	12 Vp-p(H)

②



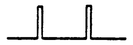
PAL	12 Vp-p(H)
SECAM	12 Vp-p(H)
NTSC3.58	12 Vp-p(H)
NTSC4.43	12 Vp-p(H)
S-VIDEO	12 Vp-p(H)
HDTV	12 Vp-p(H)

③



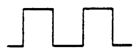
PAL	5 Vp-p(V)
SECAM	5 Vp-p(V)
NTSC3.58	5 Vp-p(V)
NTSC4.43	5 Vp-p(V)
S-VIDEO	5 Vp-p(V)
HDTV	5 Vp-p(V)

④



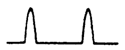
PAL	11 Vp-p(V)
SECAM	11 Vp-p(V)
NTSC3.58	11 Vp-p(V)
NTSC4.43	11 Vp-p(V)
S-VIDEO	11 Vp-p(V)
HDTV	11 Vp-p(V)

⑤



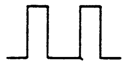
PAL	12 Vp-p(H)
SECAM	12 Vp-p(H)
NTSC3.58	12 Vp-p(H)
NTSC4.43	12 Vp-p(H)
S-VIDEO	12 Vp-p(H)
HDTV	12 Vp-p(H)

⑥



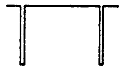
PAL	0.8Vp-p(H)
SECAM	0.8Vp-p(H)
NTSC3.58	0.8Vp-p(H)
NTSC4.43	0.8Vp-p(H)
S-VIDEO	0.8Vp-p(H)
HDTV	0.8Vp-p(H)

⑦



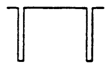
PAL	12 Vp-p(H)
SECAM	12 Vp-p(H)
NTSC3.58	12 Vp-p(H)
NTSC4.43	12 Vp-p(H)
S-VIDEO	12 Vp-p(H)
HDTV	12 Vp-p(H)

⑧



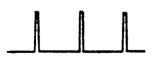
PAL	5 Vp-p(H)
SECAM	5 Vp-p(H)
NTSC3.58	5 Vp-p(H)
NTSC4.43	5 Vp-p(H)
S-VIDEO	5 Vp-p(H)
HDTV	5 Vp-p(H)

⑨



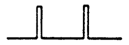
PAL	17 Vp-p(V)
SECAM	17 Vp-p(V)
NTSC3.58	17 Vp-p(V)
NTSC4.43	17 Vp-p(V)
S-VIDEO	17 Vp-p(V)
HDTV	17 Vp-p(V)

⑩



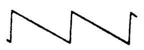
PAL	5.5Vp-p(H)
SECAM	5.5Vp-p(H)
NTSC3.58	5.5Vp-p(H)
NTSC4.43	5.5Vp-p(H)
S-VIDEO	5.5Vp-p(H)
HDTV	5.5Vp-p(H)

⑪



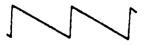
PAL	4 Vp-p(V)
SECAM	4 Vp-p(V)
NTSC3.58	4 Vp-p(V)
NTSC4.43	4 Vp-p(V)
S-VIDEO	4 Vp-p(V)
HDTV	4 Vp-p(V)

⑫



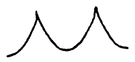
PAL	1.6Vp-p(H)
SECAM	1.6Vp-p(H)
NTSC3.58	1.6Vp-p(H)
NTSC4.43	1.6Vp-p(H)
S-VIDEO	1.6Vp-p(H)
HDTV	1.6Vp-p(H)

⑬



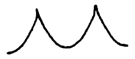
PAL	1.2Vp-p(V)
SECAM	1.2Vp-p(V)
NTSC3.58	1.2Vp-p(V)
NTSC4.43	1.2Vp-p(V)
S-VIDEO	1.2Vp-p(V)
HDTV	1.2Vp-p(V)

⑭



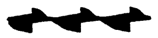
PAL	0.7Vp-p(V)
SECAM	0.7Vp-p(V)
NTSC3.58	0.7Vp-p(V)
NTSC4.43	0.7Vp-p(V)
S-VIDEO	0.7Vp-p(V)
HDTV	0.7Vp-p(V)

⑮



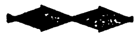
PAL	1.6Vp-p(H)
SECAM	1.6Vp-p(H)
NTSC3.58	1.6Vp-p(H)
NTSC4.43	1.6Vp-p(H)
S-VIDEO	1.6Vp-p(H)
HDTV	1.6Vp-p(H)

⑯



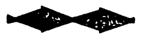
PAL	0.7Vp-p(V)
SECAM	0.7Vp-p(V)
NTSC3.58	0.7Vp-p(V)
NTSC4.43	0.7Vp-p(V)
S-VIDEO	0.7Vp-p(V)
HDTV	0.7Vp-p(V)

⑰



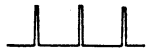
PAL	0.6Vp-p(V)
SECAM	0.6Vp-p(V)
NTSC3.58	0.6Vp-p(V)
NTSC4.43	0.6Vp-p(V)
S-VIDEO	0.6Vp-p(V)
HDTV	0.6Vp-p(V)

⑱



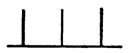
PAL	1 Vp-p(V)
SECAM	1 Vp-p(V)
NTSC3.58	1 Vp-p(V)
NTSC4.43	1 Vp-p(V)
S-VIDEO	1 Vp-p(V)
HDTV	1 Vp-p(V)

⑲



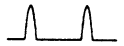
PAL	5 Vp-p(V)
SECAM	5 Vp-p(V)
NTSC3.58	5 Vp-p(V)
NTSC4.43	5 Vp-p(V)
S-VIDEO	5 Vp-p(V)
HDTV	5 Vp-p(V)

⑳



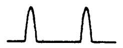
PAL	3.6Vp-p(V)
SECAM	3.6Vp-p(V)
NTSC3.58	3.6Vp-p(V)
NTSC4.43	3.6Vp-p(V)
S-VIDEO	3.6Vp-p(V)
HDTV	3.6Vp-p(V)

㉑



PAL	1.2Vp-p(H)
SECAM	1.2Vp-p(H)
NTSC3.58	1.2Vp-p(H)
NTSC4.43	1.2Vp-p(H)
S-VIDEO	1.2Vp-p(H)
HDTV	1.2Vp-p(H)

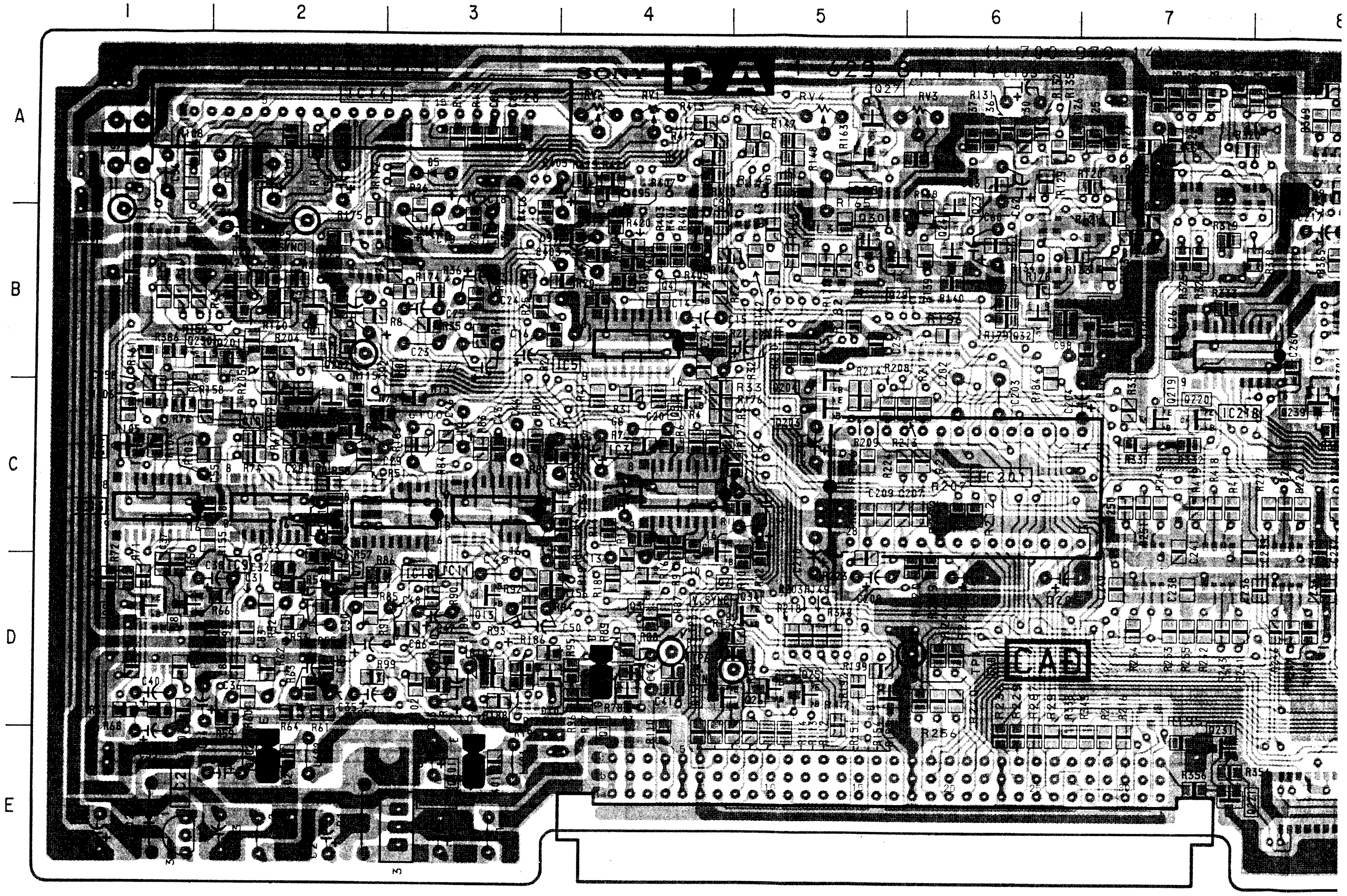
㉒

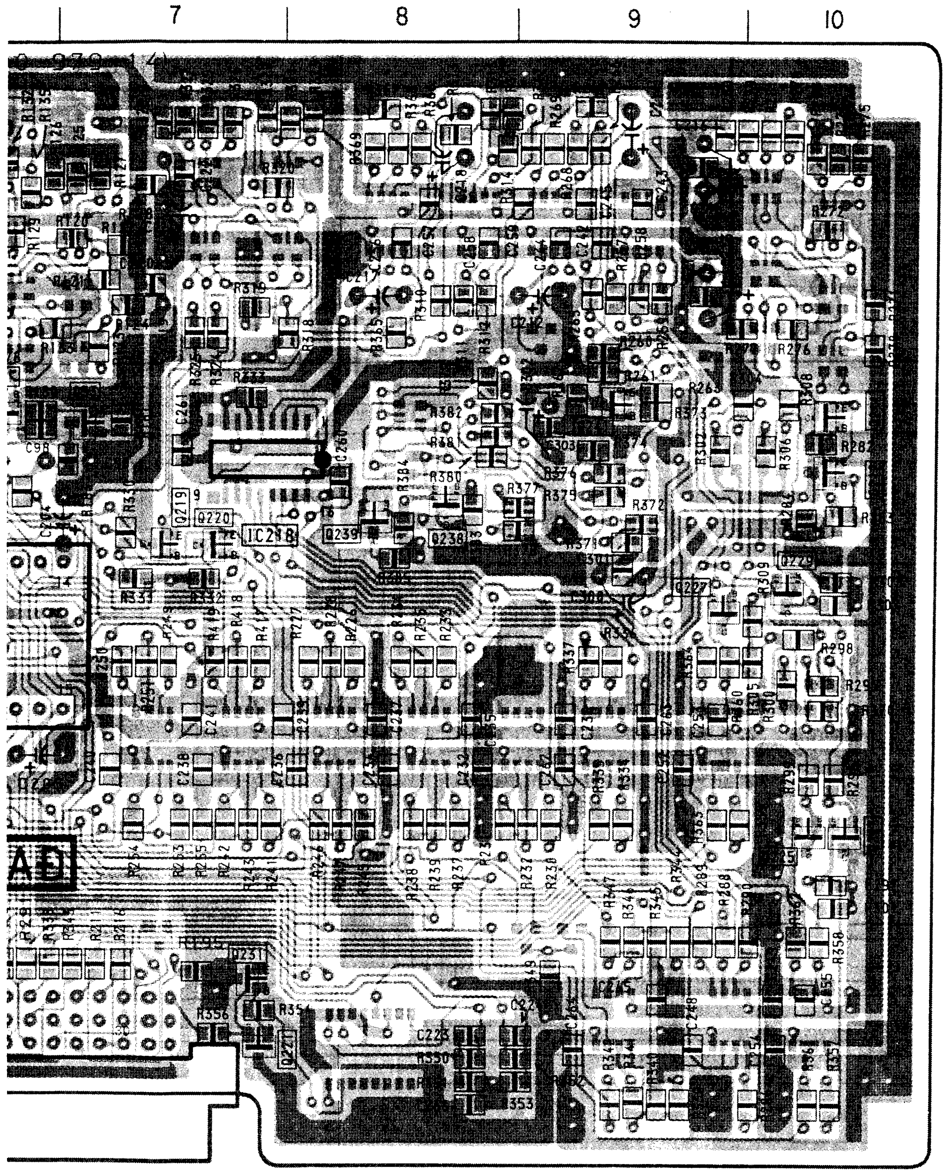


PAL	1.2Vp-p(H)
SECAM	1.2Vp-p(H)
NTSC3.58	1.2Vp-p(H)
NTSC4.43	1.2Vp-p(H)
S-VIDEO	1.2Vp-p(H)
HDTV	1.2Vp-p(H)

DA [LARGE WAVEFORM GENERATOR]

– DA BOARD – (COMPONENT SIDE)





DA BOARD

IC

	CON-DUCTOR SIDE	COM-PONENT SIDE
IC1	E - 3	E - 8
IC2	E - 1	E - 10
IC3	C - 4	
IC4		B - 9
IC5	B - 4	
IC6		B - 8
IC8		B - 10
IC9	C - 2	
IC10		D - 9
IC11	C - 3	
IC12		D - 8
IC13	C - 1	
IC14	A - 2	A - 8
IC15		A - 6
IC16		D - 10
IC17		B - 10
IC18	C - 3	
IC201	C - 6	C - 5
IC202		B - 5
IC203		D - 2
IC204		D - 3
IC205		D - 3
IC206		D - 4
IC207		D - 4
IC208		A - 2
IC209		A - 2
IC211		E - 1
IC213		E - 1
IC214		D - 1
IC215		A - 3
IC217		A - 2
IC218	C - 8	
IC219		D - 2
IC220		E - 2
IC221		E - 3
IC401		A - 7

TRANSISTOR

	CON-DUCTOR SIDE	COM-PONENT SIDE
Q1	B - 2	
Q2	C - 4	
Q3	D - 4	
Q4	B - 4	
Q5	C - 4	
Q6	C - 2	
Q7	D - 2	
Q8	D - 1	
Q9	D - 1	
Q10	C - 2	
Q11	D - 4	D - 7
Q12	C - 3	
Q13	D - 3	
Q14	C - 1	
Q15	D - 4	
Q16	C - 2	
Q17		B - 4
Q18		A - 4
Q19		B - 5
Q20		B - 5
Q21		B - 6
Q22		A - 5
Q23	B - 6	
Q24	B - 6	
Q25	D - 5	
Q26	D - 5	
Q27	A - 5	
Q28	B - 5	
Q29	A - 5	
Q30	B - 5	
Q31		B - 4
Q32	B - 6	
Q33	B - 7	
Q34	D - 5	
Q201	B - 2	
Q202	B - 2	
Q203	C - 5	
Q204	B - 5	
Q205		B - 1
Q206		A - 1
Q207		B - 1
Q208		B - 1
Q209		B - 1
Q210		A - 1
Q211	B - 10	
Q212	B - 10	
Q213		B - 3
Q214		A - 3
Q215		B - 4
Q216		A - 4
Q217		A - 3
Q218		A - 4
Q219	C - 7	
Q220	C - 7	
Q221	E - 7	
Q222		C - 1
Q223	D - 10	
Q224		C - 1
Q225	D - 10	
Q226		B - 1
Q227	C - 9	
Q228		B - 1
Q229	C - 10	
Q230	B - 2	
Q231	E - 7	
Q232		C - 2
Q233		B - 2
Q234		C - 2
Q235		B - 3
Q236		B - 3
Q237		B - 2
Q238	C - 8	
Q239	C - 8	
Q240		B - 2
Q241	B - 9	
Q401	E - 3	E - 8
Q402	E - 2	E - 9

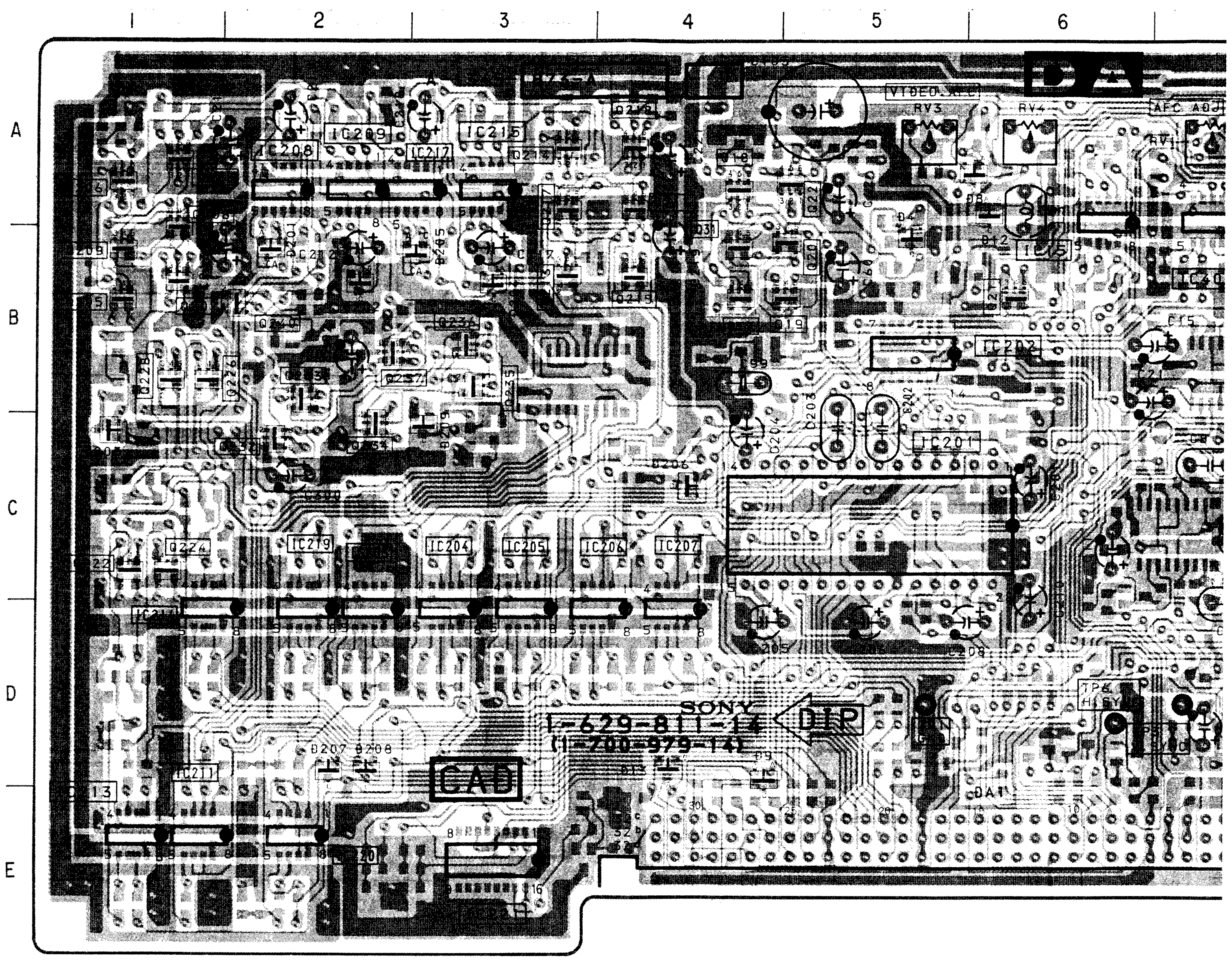
DIODE

	CON-DUCTOR SIDE	COM-PONENT SIDE
D1	E - 2	E - 9
D2	E - 1	E - 10
D3	D - 4	
D4		B - 5
D5	A - 3	A - 8
D6		B - 8
D7		D - 9
D8		A - 6
D9		D - 4
D10	D - 3	
D11	D - 5	
D12		A - 6
D13		D - 4
D201		B - 2
D202		B - 2
D203		C - 1
D204		B - 3
D205		B - 3
D206		C - 4
D207		D - 2
D208		D - 2
D209		C - 3

ADJUSTING ELEMENT

	CON-DUCTOR SIDE	COM-PONENT SIDE
RV1	A - 4	A - 7
RV2	A - 4	A - 7
RV3	A - 6	A - 5
RV4	A - 5	A - 6

(CONDUCTOR SIDE)


1
2
3
4
5
6
A
B
C
D
E
DA
VIDEO
RV3
RV4
AFC ADJ
IC208
IC209
IC215
IC217
IC202
IC201
IC219
IC204
IC205
IC206
IC207
IC211
SONY
1-629-811-14
(1-200-979-14)
DIP
CAD

DA BOARD

IC

	CON-DUCTOR SIDE	COM-PONENT SIDE
IC1	E - 3	E - 8
IC2	E - 1	E - 10
IC3	C - 4	
IC4		B - 9
IC5	B - 4	
IC6		B - 8
IC8		B - 10
IC9	C - 2	
IC10		D - 9
IC11	C - 3	
IC12		D - 8
IC13	C - 1	
IC14	A - 2	A - 8
IC15		A - 6
IC16		D - 10
IC17		B - 10
IC18	C - 3	
IC201	C - 6	C - 5
IC202		B - 5
IC203		D - 2
IC204		D - 3
IC205		D - 3
IC206		D - 4
IC207		D - 4
IC208		A - 2
IC209		A - 2
IC211		E - 1
IC213		E - 1
IC214		D - 1
IC215		A - 3
IC217		A - 2
IC218	C - 8	
IC219		D - 2
IC220		E - 2
IC221		E - 3
IC401		A - 7

TRANSISTOR

	CON-DUCTOR SIDE	COM-PONENT SIDE
Q1	B - 2	
Q2	C - 4	
Q3	D - 4	
Q4	B - 4	
Q5	C - 4	
Q6	C - 2	
Q7	D - 2	
Q8	D - 1	
Q9	D - 1	
Q10	C - 2	
Q11	D - 4	D - 7
Q12	C - 3	
Q13	D - 3	
Q14	C - 1	
Q15	D - 4	
Q16	C - 2	
Q17		B - 4
Q18		A - 4
Q19		B - 5
Q20		B - 5
Q21		B - 6
Q22		A - 5
Q23	B - 6	
Q24	B - 6	
Q25	D - 5	
Q26	D - 5	
Q27	A - 5	
Q28	B - 5	
Q29	A - 5	
Q30	B - 5	
Q31		B - 4
Q32	B - 6	
Q33	B - 7	
Q34	D - 5	
Q201	B - 2	
Q202	B - 2	
Q203	C - 5	
Q204	B - 5	
Q205		B - 1
Q206		A - 1
Q207		B - 1
Q208		B - 1
Q209		B - 1
Q210		A - 1
Q211	B - 10	
Q212	B - 10	
Q213		B - 3
Q214		A - 3
Q215		B - 4
Q216		A - 4
Q217		A - 3
Q218		A - 4
Q219	C - 7	
Q220	C - 7	
Q221	E - 7	
Q222		C - 1
Q223	D - 10	
Q224		C - 1
Q225	D - 10	
Q226		B - 1
Q227	C - 9	
Q228		B - 1
Q229	C - 10	
Q230	B - 2	
Q231	E - 7	
Q232		C - 2
Q233		B - 2
Q234		C - 2
Q235		B - 3
Q236		B - 3
Q237		B - 2
Q238	C - 8	
Q239	C - 8	
Q240		B - 2
Q241	B - 9	
Q401	E - 3	E - 8
Q402	E - 2	E - 9

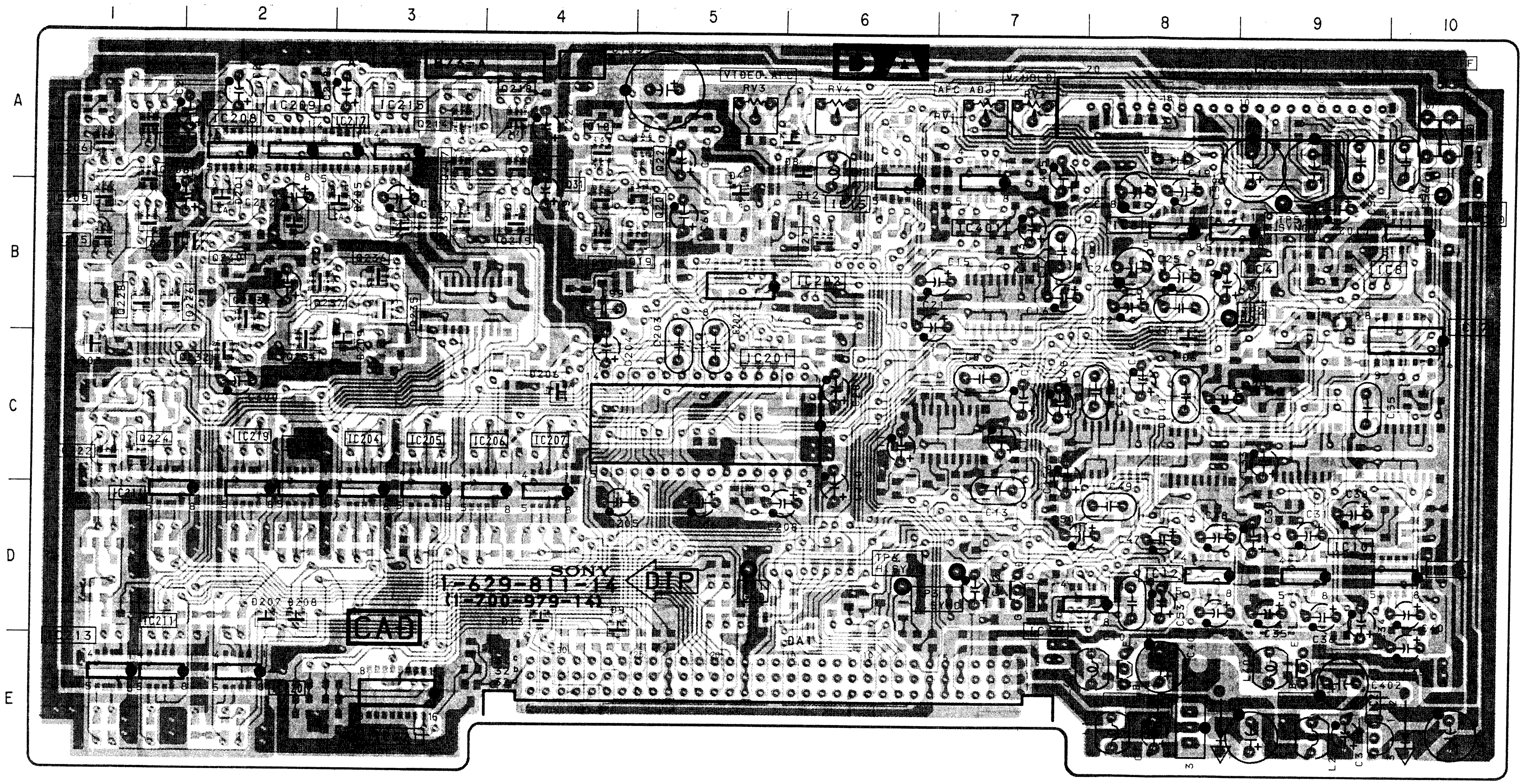
DIODE

	CON-DUCTOR SIDE	COM-PONENT SIDE
D1	E - 2	E - 9
D2	E - 1	E - 10
D3	D - 4	
D4		B - 5
D5	A - 3	A - 8
D6		B - 8
D7		D - 9
D8		A - 6
D9		D - 4
D10	D - 3	
D11	D - 5	
D12		A - 6
D13		D - 4
D201		B - 2
D202		B - 2
D203		C - 1
D204		B - 3
D205		B - 3
D206		C - 4
D207		D - 2
D208		D - 2
D209		C - 3

ADJUSTING ELEMENT

	CON-DUCTOR SIDE	COM-PONENT SIDE
RV1	A - 4	A - 7
RV2	A - 4	A - 7
RV3	A - 6	A - 5
RV4	A - 5	A - 6

(CONDUCTOR SIDE)

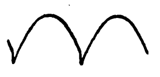

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
DA
VIDEO AFC
RV3
RV4
AFC ADJ
V.HOLD
RV2
RV1
IC208
IC209
IC217
IC215
IC202
IC201
IC219
IC204
IC205
IC206
IC207
IC211
IC6
SONY
1-629-811-14
(1-700-979-14)
CAD
DIP

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

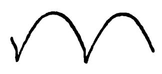
A B C D E F G H I J

①



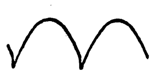
PAL	1.1Vp-p(H)
SECAM	1.1Vp-p(H)
NTSC3.58	1.1Vp-p(H)
NTSC4.43	1.1Vp-p(H)
S-VIDEO	1.1Vp-p(H)
HDTV	1.1Vp-p(H)

②



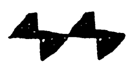
PAL	0.7Vp-p(H)
SECAM	0.7Vp-p(H)
NTSC3.58	0.7Vp-p(H)
NTSC4.43	0.7Vp-p(H)
S-VIDEO	0.7Vp-p(H)
HDTV	0.7Vp-p(H)

③



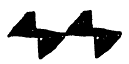
PAL	1.5Vp-p(H)
SECAM	1.5Vp-p(H)
NTSC3.58	1.5Vp-p(H)
NTSC4.43	1.5Vp-p(H)
S-VIDEO	1.5Vp-p(H)
HDTV	1.5Vp-p(H)

④



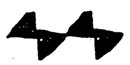
PAL	0.6Vp-p(V)
SECAM	0.6Vp-p(V)
NTSC3.58	0.6Vp-p(V)
NTSC4.43	0.6Vp-p(V)
S-VIDEO	0.6Vp-p(V)
HDTV	0.6Vp-p(V)

⑤



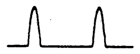
PAL	1.1Vp-p(V)
SECAM	1.1Vp-p(V)
NTSC3.58	1.1Vp-p(V)
NTSC4.43	1.1Vp-p(V)
S-VIDEO	1.1Vp-p(V)
HDTV	1.1Vp-p(V)

⑥



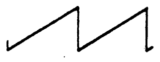
PAL	1.1Vp-p(V)
SECAM	1.1Vp-p(V)
NTSC3.58	1.1Vp-p(V)
NTSC4.43	1.1Vp-p(V)
S-VIDEO	1.1Vp-p(V)
HDTV	1.1Vp-p(V)

⑦



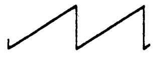
PAL	1.2Vp-p(H)
SECAM	1.2Vp-p(H)
NTSC3.58	1.2Vp-p(H)
NTSC4.43	1.2Vp-p(H)
S-VIDEO	1.2Vp-p(H)
HDTV	1.2Vp-p(H)

⑧



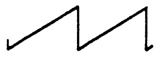
PAL	3.6Vp-p(V)
SECAM	3.6Vp-p(V)
NTSC3.58	3.6Vp-p(V)
NTSC4.43	3.6Vp-p(V)
S-VIDEO	3.6Vp-p(V)
HDTV	3.6Vp-p(V)

⑨

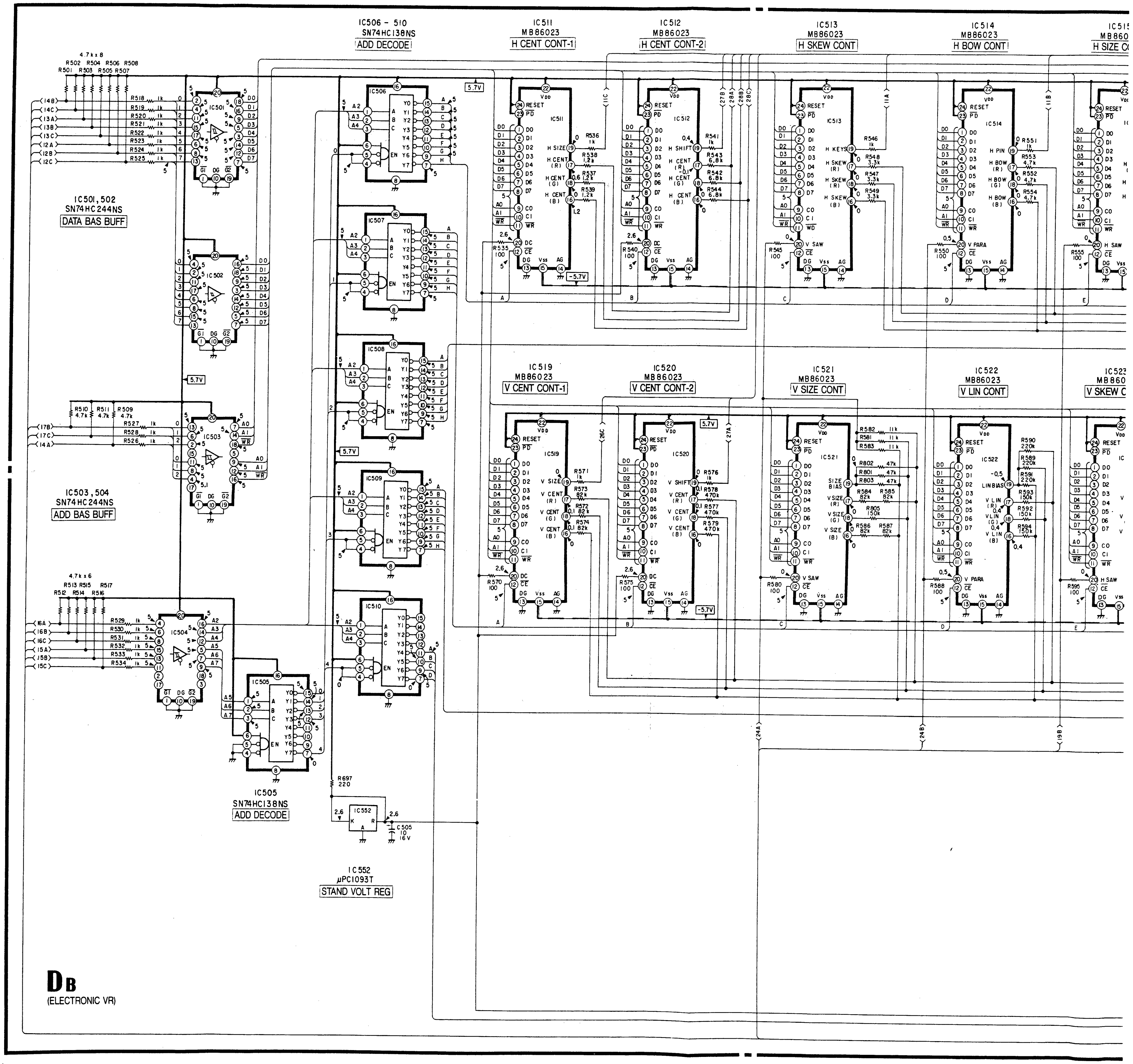


PAL	3.6Vp-p(V)
SECAM	3.6Vp-p(V)
NTSC3.58	3.6Vp-p(V)
NTSC4.43	3.6Vp-p(V)
S-VIDEO	3.6Vp-p(V)
HDTV	3.6Vp-p(V)

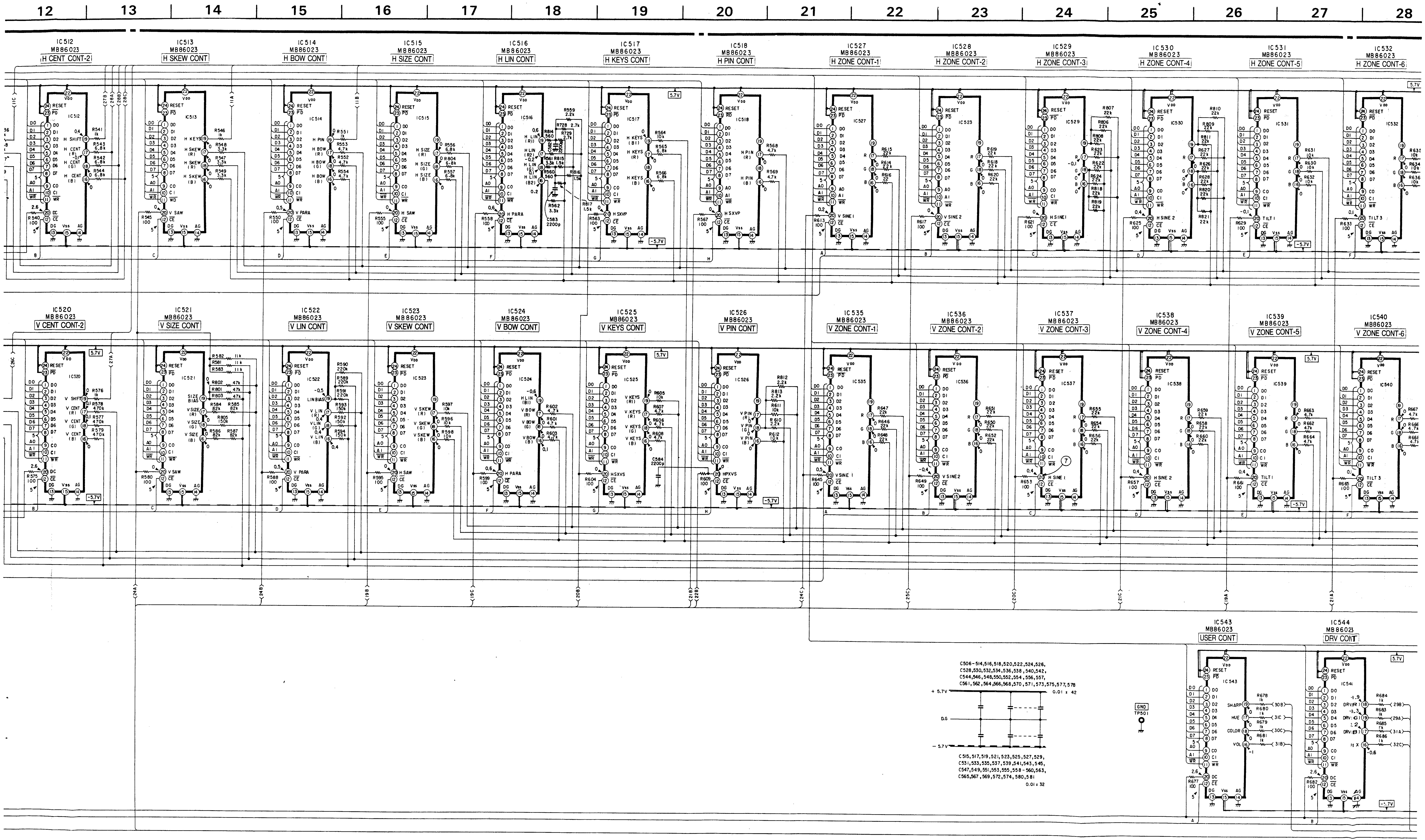
⑩



PAL	3.6Vp-p(V)
SECAM	3.6Vp-p(V)
NTSC3.58	3.6Vp-p(V)
NTSC4.43	3.6Vp-p(V)
S-VIDEO	3.6Vp-p(V)
HDTV	3.6Vp-p(V)


IC501,502
SN74HC244NS
DATA BAS BUFF
IC503,504
SN74HC244NS
ADD BAS BUFF
IC505
SN74HC138NS
ADD DECODE
IC506 - 510
SN74HC138NS
ADD DECODE
IC511
MB86023
H CENT CONT-1
IC512
MB86023
H CENT CONT-2
IC513
MB86023
H SKEW CONT
IC514
MB86023
H BOW CONT
IC515
MB860
H SIZE C
IC519
MB86023
V CENT CONT-1
IC520
MB86023
V CENT CONT-2
IC521
MB86023
V SIZE CONT
IC522
MB86023
V LIN CONT
IC523
MB860
V SKEW C
IC552
μPC1093T
STAND VOLT REG
4.7k x 8
4.7k x 6
R697 220
C505 10 16V
5.7V
-5.7V
H SIZE
H CENT
H SHIFT
H KEYS
H SKEW
H PIN
H BOW
V SIZE
V CENT
V SHIFT
SIZE BIAS
V SAW
V PARA
LIN BIAS
V LIN
H SAW
RESET
VDD
DG
Vss
AG
(14B)
(14C)
(13A)
(13B)
(13C)
(12A)
(12B)
(12C)
(17B)
(17C)
(14A)
(16A)
(16B)
(16C)
(15A)
(15B)
(15C)
(24A)
(24B)
(19B)

DB
(ELECTRONIC VR)


12
13
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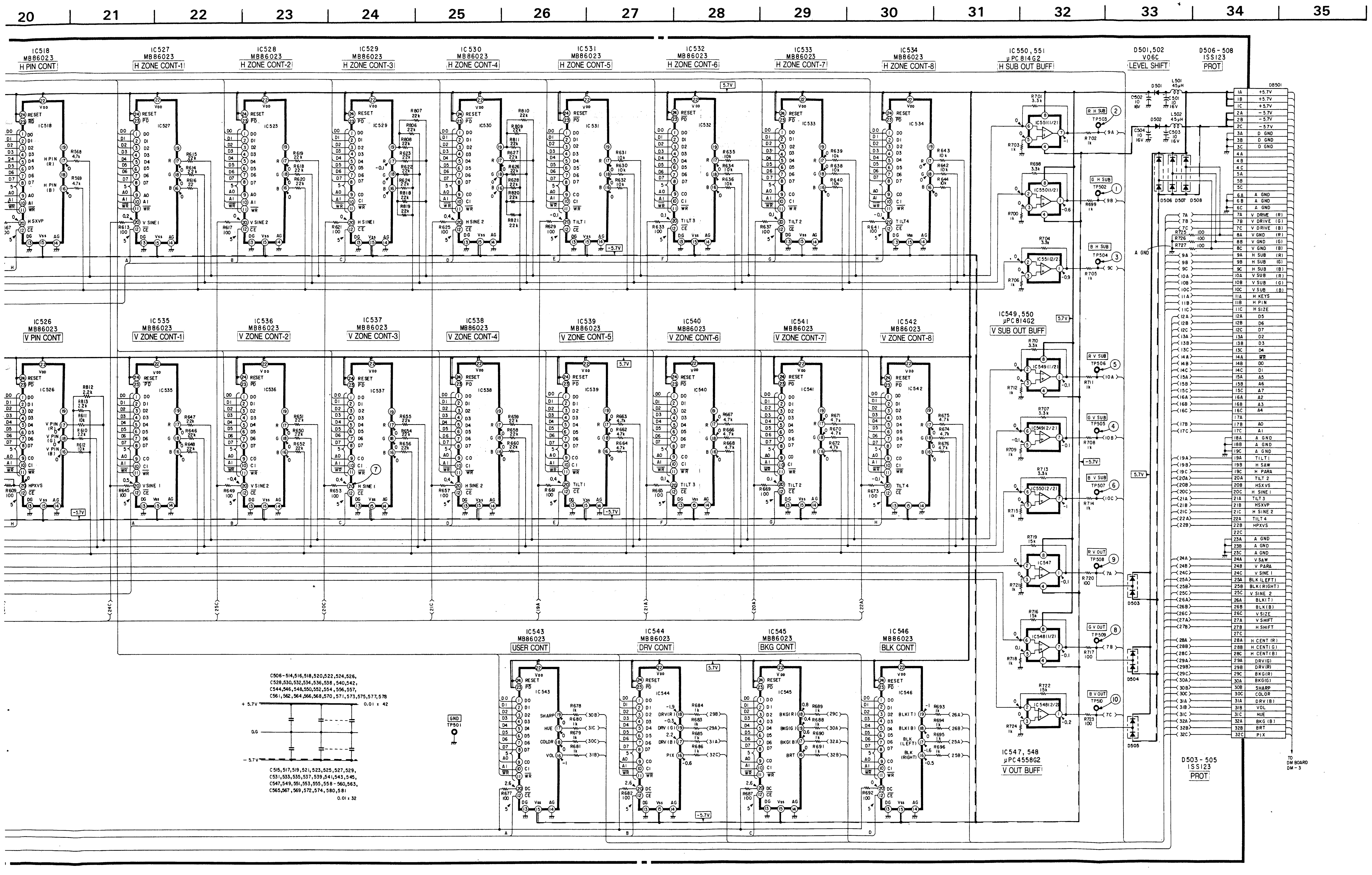
21
22
23
24
25
26
27
28
IC512 MB86023 H CENT CONT-2
IC513 MB86023 H SKEW CONT
IC514 MB86023 H BOW CONT
IC515 MB86023 H SIZE CONT
IC516 MB86023 H LIN CONT
IC517 MB86023 H KEYS CONT
IC518 MB86023 H PIN CONT
IC527 MB86023 H ZONE CONT-1
IC528 MB86023 H ZONE CONT-2
IC529 MB86023 H ZONE CONT-3
IC530 MB86023 H ZONE CONT-4
IC531 MB86023 H ZONE CONT-5
IC532 MB86023 H ZONE CONT-6
IC520 MB86023 V CENT CONT-2
IC521 MB86023 V SIZE CONT
IC522 MB86023 V LIN CONT
IC523 MB86023 V SKEW CONT
IC524 MB86023 V BOW CONT
IC525 MB86023 V KEYS CONT
IC526 MB86023 V PIN CONT
IC535 MB86023 V ZONE CONT-1
IC536 MB86023 V ZONE CONT-2
IC537 MB86023 V ZONE CONT-3
IC538 MB86023 V ZONE CONT-4
IC539 MB86023 V ZONE CONT-5
IC540 MB86023 V ZONE CONT-6
IC543 MB86023 USER CONT
IC544 MB86023 DRV CONT
5.7V
-5.7V
GND
TP501
C506-514,516,518,520,522,524,526,
C528,530,532,534,536,538,540,542,
C544,546,548,550,552,554,556,557,
C561,562,564,566,568,570,571,573,575,577,578
0.01 x 42
+5.7V
D.G
-5.7V
C515,517,519,521,523,525,527,529,
C531,533,535,537,539,541,543,545,
C547,549,551,553,555,558-560,563,
C565,567,569,572,574,580,581
0.01 x 32
SHARP
HUE
COLOR
VOL
DRV R
DRV G
DRV B
H X


20
21
22
23
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27
28
29
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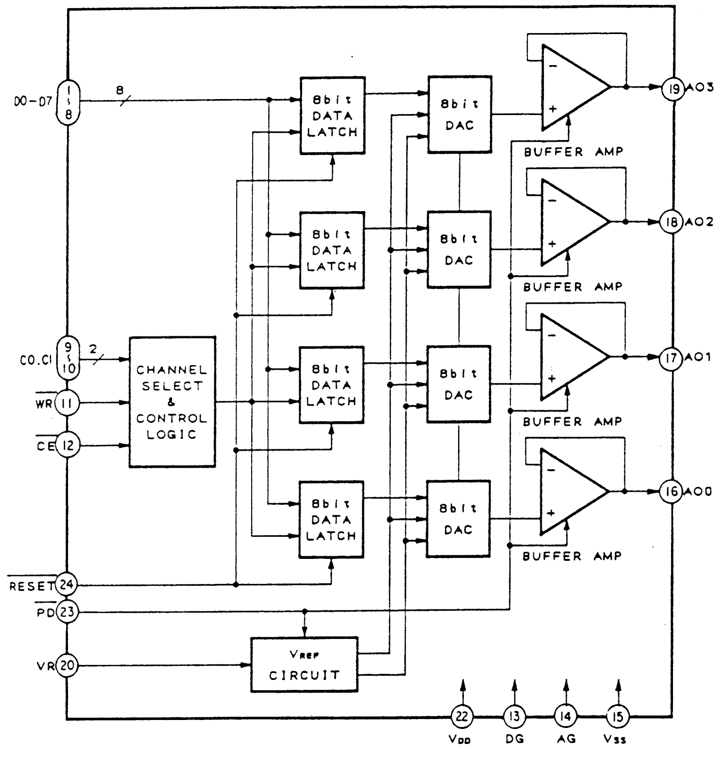
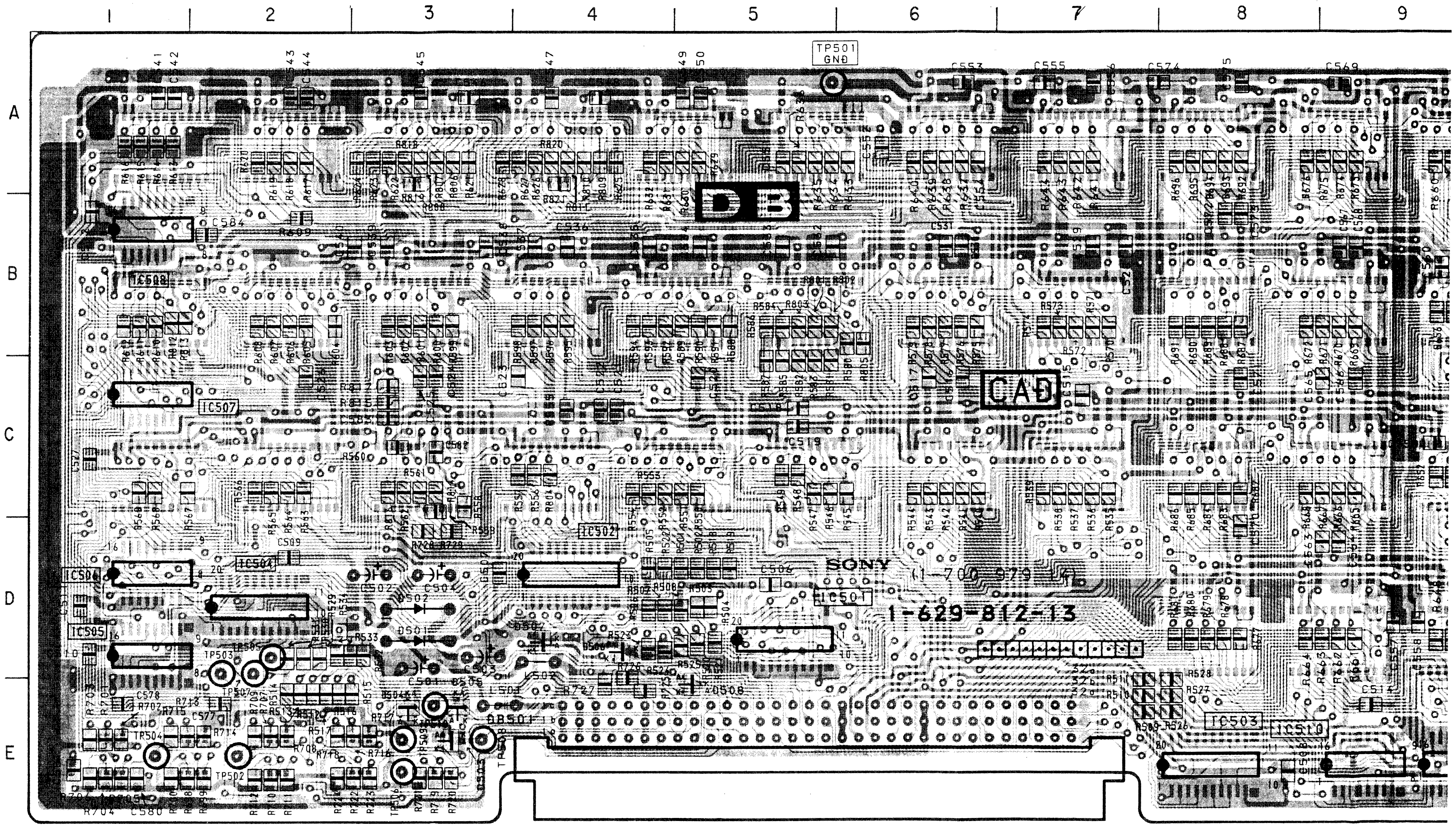
31
32
33
34
35
IC518 MB86023 H PIN CONT
IC527 MB86023 H ZONE CONT-1
IC528 MB86023 H ZONE CONT-2
IC529 MB86023 H ZONE CONT-3
IC530 MB86023 H ZONE CONT-4
IC531 MB86023 H ZONE CONT-5
IC532 MB86023 H ZONE CONT-6
IC533 MB86023 H ZONE CONT-7
IC534 MB86023 H ZONE CONT-8
IC550,551 μPC814G2 H SUB OUT BUFF
D501,502 V06C LEVEL SHIFT
D506-508 1SS123 PROT
IC526 MB86023 V PIN CONT
IC535 MB86023 V ZONE CONT-1
IC536 MB86023 V ZONE CONT-2
IC537 MB86023 V ZONE CONT-3
IC538 MB86023 V ZONE CONT-4
IC539 MB86023 V ZONE CONT-5
IC540 MB86023 V ZONE CONT-6
IC541 MB86023 V ZONE CONT-7
IC542 MB86023 V ZONE CONT-8
IC549,550 μPC814G2 V SUB OUT BUFF
IC543 MB86023 USER CONT
IC544 MB86023 DRV CONT
IC545 MB86023 BKG CONT
IC546 MB86023 BLK CONT
IC547,548 μPC4556G2 V OUT BUFF
D503-505 1SS123 PROT
GND TP501
R H SUB TP503
G H SUB TP502
B H SUB TP504
R V SUB TP506
G V SUB TP505
B V SUB TP507
R V OUT TP508
G V OUT TP509
B V OUT TP510
5.7V
-5.7V
A GND
DB501
1A +5.7V
1B +5.7V
1C +5.7V
2A −5.7V
2B −5.7V
2C −5.7V
3A D GND
3B D GND
3C D GND
4A
4B
4C
5A
5B
5C
6A A GND
6B A GND
6C A GND
7A V DRIVE (R)
7B V DRIVE (G)
7C V DRIVE (B)
8A V GND (R)
8B V GND (G)
8C V GND (B)
9A H SUB (R)
9B H SUB (G)
9C H SUB (B)
10A V SUB (R)
10B V SUB (G)
10C V SUB (B)
11A H KEYS
11B H PIN
11C H SIZE
12A D5
12B D6
12C D7
13A D2
13B D3
13C D4
14A WR
14B D0
14C D1
15A A5
15B A6
15C A7
16A A2
16B A3
16C A4
17A
17B A0
17C A1
18A A GND
18B A GND
19C A GND
19A TILT1
19B H SAW
19C H PARA
20A TILT 2
20B HSXVS
20C H SINE 1
21A TILT 3
21B HSXVP
21C H SINE 2
22A TILT 4
22B HPXVS
22C
23A A GND
23B A GND
23C A GND
24A V SAW
24B V PARA
24C V SINE 1
25A BLK (LEFT)
25B BLK (RIGHT)
25C V SINE 2
26A BLK (T)
26B BLK (B)
26C V SIZE
27A V SHIFT
27B H SHIFT
27C
28A H CENT (R)
28B H CENT (G)
28C H CENT (B)
29A DRV (G)
29B DRV (R)
29C BKG (R)
30A BKG (G)
30B SHARP
30C COLOR
31A DRV (B)
31B VOL
31C HUE
32A BKG (B)
32B BRT
32C PIX
TO DM BOARD DM-3
C506-514,516,518,520,522,524,526,
C528,530,532,534,536,538,540,542,
C544,546,548,550,552,554,556,557,
C561,562,564,566,568,570,571,573,575,577,578
0.01 x 42
+5.7V
D.G
−5.7V
C515,517,519,521,523,525,527,529,
C531,533,535,537,539,541,543,545,
C547,549,551,553,555,558-560,563,
C565,567,569,572,574,580,581
0.01 x 32

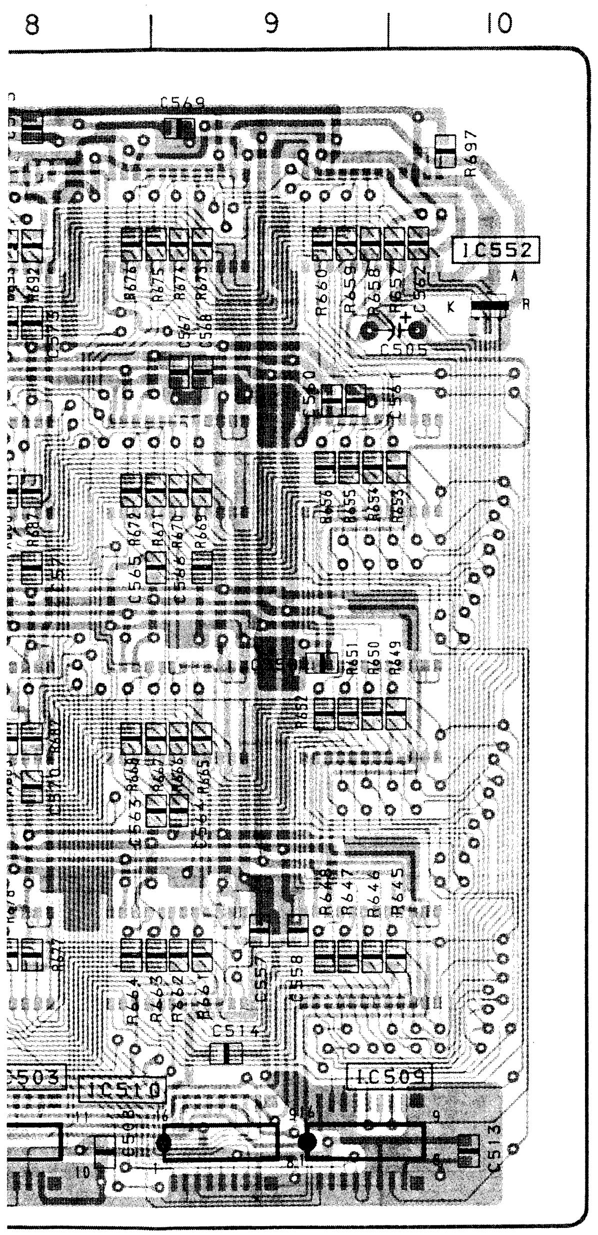
DB [ELECTRONIC VR]

IC511 MB86023


D0-D7
1~8
8
8bit DATA LATCH
8bit DAC
BUFFER AMP
19 AO3
18 AO2
17 AO1
16 AO0
CO,C1
9~10
2
CHANNEL SELECT & CONTROL LOGIC
WR 11
CE 12
RESET 24
PD 23
VR 20
VREF CIRCUIT
22 VDD
13 DG
14 AG
15 VSS

- DB BOARD - (COMPONENT SIDE)


1
2
3
4
5
6
7
8
9
A
B
C
D
E
TP501 GND
DB
CAD
SONY
1-629-812-13
IC501
IC502
IC503
IC504
IC505
IC506
IC507
IC508
IC510
TP502
TP503
TP504
TP505
TP507

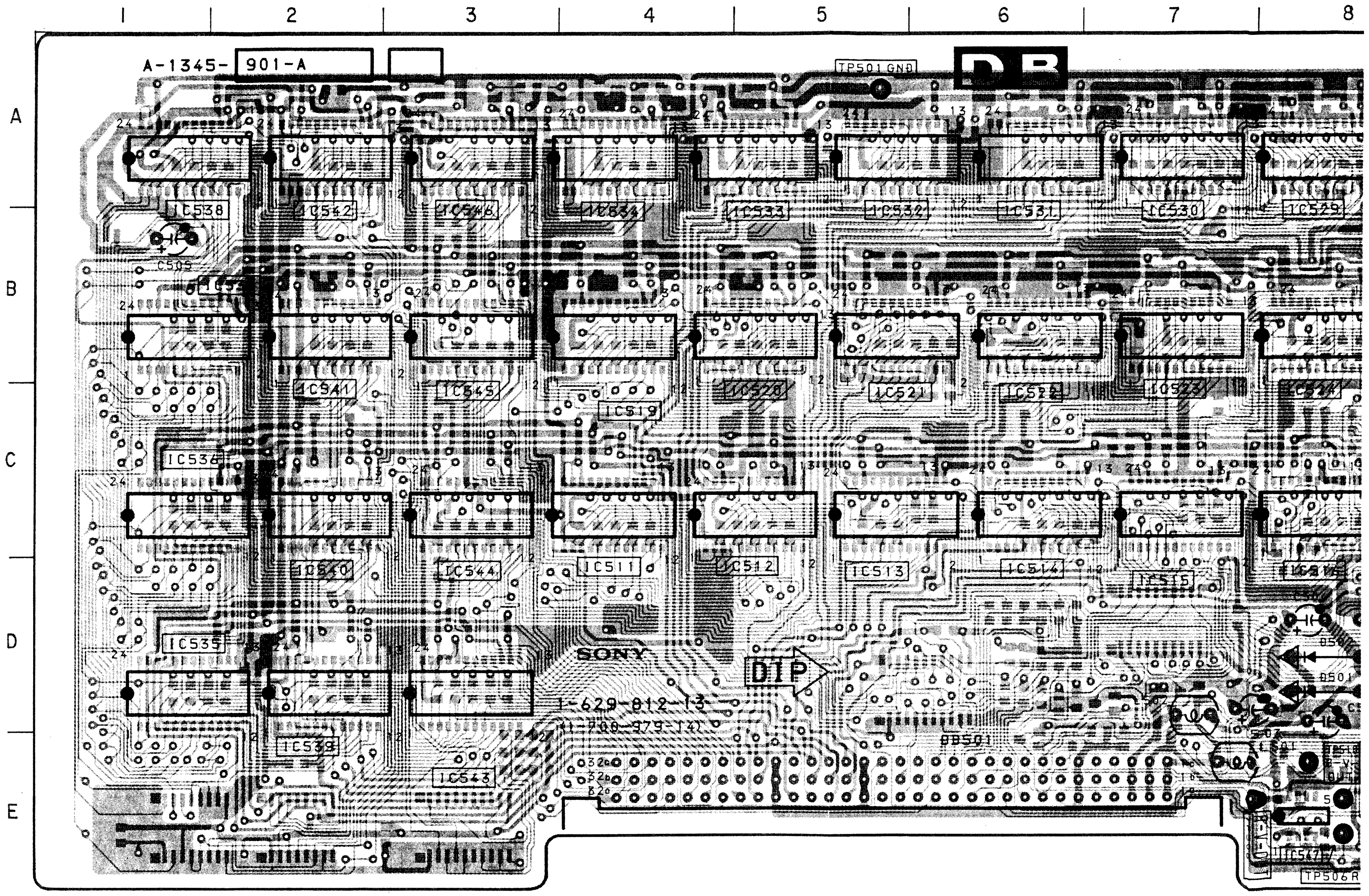

8
9
10
C549
R697
IC552
C505
IC503
IC510
IC509
C514
C513

DB BOARD

IC	CON-DUCTOR SIDE	COM-PONENT SIDE
IC501	D - 5	
IC502	D - 4	
IC503	E - 8	
IC504	D - 2	
IC505	D - 1	
IC506	D - 1	
IC507	C - 1	
IC508	B - 1	
IC509	E - 9	
IC510	E - 9	
IC511		C - 4
IC512		C - 5
IC513		C - 5
IC514		C - 6
IC515		C - 7
IC516		C - 8
IC517		C - 9
IC518		C - 10
IC519		B - 4
IC520		B - 5
IC521		B - 5
IC522		B - 6
IC523		B - 7
IC524		B - 8
IC525		B - 9
IC526		B - 10
IC527		A - 10
IC528		A - 9
IC529		A - 8
IC530		A - 7
IC531		A - 6
IC532		A - 5
IC533		A - 5
IC534		A - 4
IC535		D - 1
IC536		C - 1
IC537		B - 1
IC538		A - 1
IC539		D - 2
IC540		C - 2
IC541		B - 2
IC542		A - 2
IC543		D - 3
IC544		C - 3
IC545		B - 3
IC546		A - 3
IC547		E - 8
IC548		E - 8
IC549		E - 9
IC550		E - 9
IC551		E - 10
IC552	B - 10	

DIODE	CON-DUCTOR SIDE	COM-PONENT SIDE
D501	D - 3	D - 8
D502	D - 3	D - 8
D503	E - 3	
D504	E - 3	
D505	E - 3	
D506	D - 4	
D507	D - 4	
D508	E - 5	

(CONDUCTOR SIDE)


1
2
3
4
5
6
7
8
A
B
C
D
E
A-1345-901-A
TP501 GND
DB
IC538
IC542
IC546
IC534
IC533
IC532
IC531
IC530
IC529
C505
IC541
IC545
IC519
IC520
IC521
IC522
IC523
IC524
IC536
IC540
IC544
IC511
IC512
IC513
IC514
IC515
IC535
IC539
IC543
SONY
DIP
1-629-812-13
CN501
TP506

▨ : Patte
▨ : Patte

M-
ENT
DE

- 4
- 5
- 5
- 6
- 7
- 8
- 9
- 10
- 4
- 5
- 5
- 6
- 7
- 8
- 9
- 10
- 10
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- 5
- 5
- 4
- 1
- 1
- 1
- 1
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- 2
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- 8
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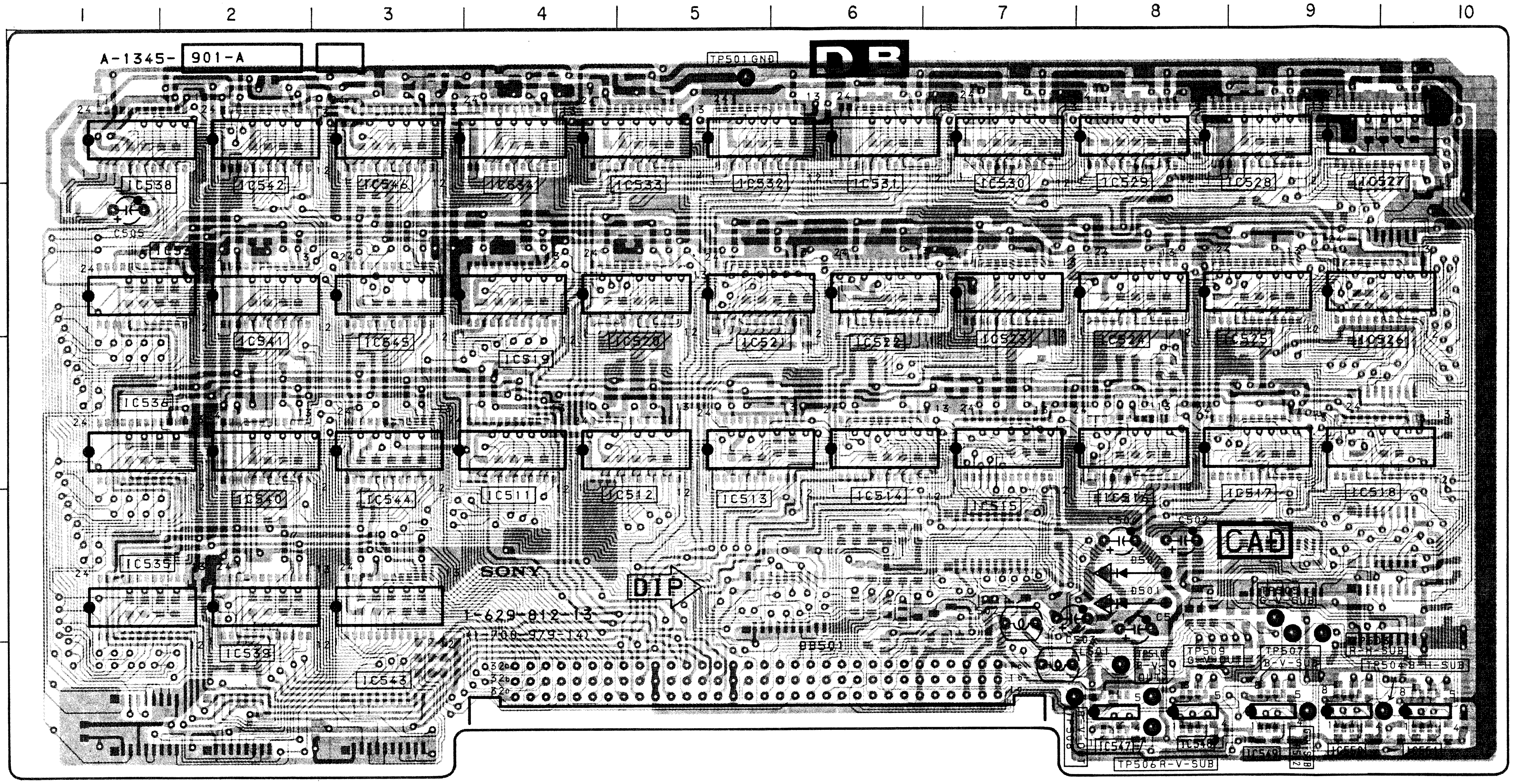
- 9
- 9
- 10

OM-
NENT
DE
- 8
- 8

(CONDUCTOR SIDE)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
A-1345- 901-A
TP501 GND
DB
IC538
IC542
IC546
IC534
IC533
IC532
IC531
IC530
IC529
IC528
IC527
C505
IC541
IC545
IC519
IC520
IC521
IC522
IC523
IC524
IC525
IC526
IC536
IC540
IC544
IC511
IC512
IC513
IC514
IC515
IC516
IC517
IC518
IC535
IC539
IC543
SONY
DIP
CAD
1-629-812-13
1-708-979-141
C501
C502
D501
D502
CN501
TP509 G-V-SUB
TP507 B-V-SUB
TP503 B-V-SUB
R-H-SUB
TP504 B-H-SUB
TP506 R-V-SUB
IC547
IC548
IC549
IC550
IC551

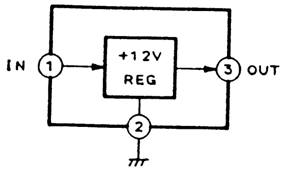
- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

Q-No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	HDTV
1	B	–	–	–	–	–	–
	C	1.2	1.2	1.2	1.2	1.2	1.0
	E	–	–	–	–	–	–
2	B	–	–	–	–	–	–
	C	1.2	1.2	1.2	1.2	1.2	1.0
	E	–	–	–	–	–	–
3	B	–	–	–	–	–	–
	C	1.2	1.2	1.2	1.2	1.2	1.0
	E	–	–	–	–	–	–
6	B	1.0	1.0	1.0	1.0	1.0	0.3
	C	–	–	–	–	–	–
	E	–	–	–	–	–	–
11	B	9.8	9.8	9.8	9.8	9.8	10
	C	–	–	–	–	–	–
	E	–	–	–	–	–	–
12	B	7.4	7.4	7.4	7.4	7.4	7.6
	C	–	–	–	–	–	–
	E	–	–	–	–	–	–
101	B	0.6	0.6	0.6	0.6	0.6	1.5
	C	–	–	–	–	–	–
	E	0	0	0	0	0	0.9
102	G	−6.2	−6.2	−6.2	−6.2	−6.2	−5.6
	D	13.7	13.7	13.7	13.7	13.7	13
	S	–	–	–	–	–	–
103	B	13.8	13.8	13.8	13.8	13.8	13
	C	14.5	14.5	14.5	14.5	14.5	14.9
	E	13.2	13.2	13.2	13.2	13.2	12.5
104	B	13.8	13.8	13.8	13.8	13.8	13
	C	–	–	–	–	–	–
	E	13.2	13.2	13.2	13.2	13.2	12.5
105	G	35.5	35.5	35.5	35.5	35.5	34.9
	D	−1.2	−1.2	−1.2	−1.2	−1.2	9
	S	–	–	–	–	–	–
106	B	0.6	0.6	0.6	0.6	0.6	1.5
	C	14.5	14.5	14.5	14.5	14.5	14.9
	E	1.1	1.1	1.1	1.1	1.1	2
107	B	0.6	0.6	0.6	0.6	0.6	1.5
	C	–	–	–	–	–	–
	E	1.1	1.1	1.1	1.1	1.1	2
108	G	−35.7	−35.7	−35.7	−35.7	−35.7	−35.1
	D	−17.9	−17.9	−17.9	−17.9	−17.9	−14.9
	S	–	–	–	–	–	–
202	B	−34	−34	−34	−34	−34	−33.8
	C	–	–	–	–	–	–
	E	–	–	–	–	–	–
203	B	–	–	–	–	–	–
	C	15	15	15	15	15	17
	E	–	–	–	–	–	–
204	B	–	–	–	–	–	–
	C	−18.4	−18.4	−18.4	−18.4	−18.4	−18.1
	E	–	–	–	–	–	–
207	B	–	–	–	–	–	–
	C	15	15	15	15	15	17
	E	–	–	–	–	–	–
208	B	–	–	–	–	–	–
	C	−18.4	−18.4	−18.4	−18.4	−18.4	−18.1
	E	–	–	–	–	–	–
210	B	–	–	–	–	–	–
	C	−0.3	−0.3	−0.3	−0.3	−0.3	−5.3
	E	–	–	–	–	–	–
211	B	–	–	–	–	–	–
	C	15	15	15	15	15	17
	E	0.4	0.4	0.4	0.4	0.4	5
212	B	–	–	–	–	–	–
	C	−18.4	−18.4	−18.4	−18.4	−18.4	−18.1
	E	–	–	–	–	–	–
301	B	32.1	32.1	32.1	32.1	32.1	−32.2
	C	2	2	2	2	2	0.3
	E	–	–	–	–	–	–
302	B	−34.1	−34.1	−34.1	−34.1	−34.1	−33.8
	C	0.5	0.5	0.5	0.5	0.5	−1.2
	E	–	–	–	–	–	–

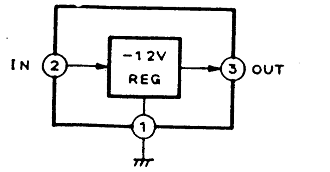
Q-No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	HDTV
303	B	1.7	1.7	1.7	1.7	1.7	0.2
	C	14.9	14.9	14.9	14.9	14.9	16.9
	E	1.0	1.0	1.0	1.0	1.0	−0.1
304	B	0.5	0.5	0.5	0.5	0.5	−1
	C	−18.4	−18.4	−18.4	−18.4	−18.4	−18.1
	E	0.6	0.6	0.6	0.6	0.6	−0.5
305	B	–	–	–	–	–	–
	C	2.7	2.7	2.7	2.7	2.7	1.5
	E	–	–	–	–	–	–
306	B	–	–	–	–	–	–
	C	1.3	1.3	1.3	1.3	1.3	0
	E	–	–	–	–	–	–
307	B	32.1	32.1	32.1	32.1	32.1	1.3
	C	2.7	2.7	2.7	2.7	2.7	16.9
	E	32.7	32.7	32.7	32.7	32.7	0.7
308	B	1.3	1.3	1.3	1.3	1.3	0
	C	−18.4	−18.4	−18.4	−18.4	−18.4	−18.1
	E	1.7	1.7	1.7	1.7	1.7	0.3
309	B	–	–	–	–	–	–
	C	3.7	3.7	3.7	3.7	3.7	3.0
	E	–	–	–	–	–	–
310	B	–	–	–	–	–	–
	C	2.1	2.1	2.1	2.1	2.1	1.5
	E	–	–	–	–	–	–
311	B	3.2	3.2	3.2	3.2	3.2	2.7
	C	14.9	14.9	14.9	14.9	14.9	17
	E	2.4	2.4	2.4	2.4	2.4	1.9
312	B	2.1	2.1	2.1	2.1	2.1	1.5
	C	−18.4	−18.4	−18.4	−18.4	−18.4	−18.1
	E	−18.4	−18.4	−18.4	−18.4	−18.4	1.2

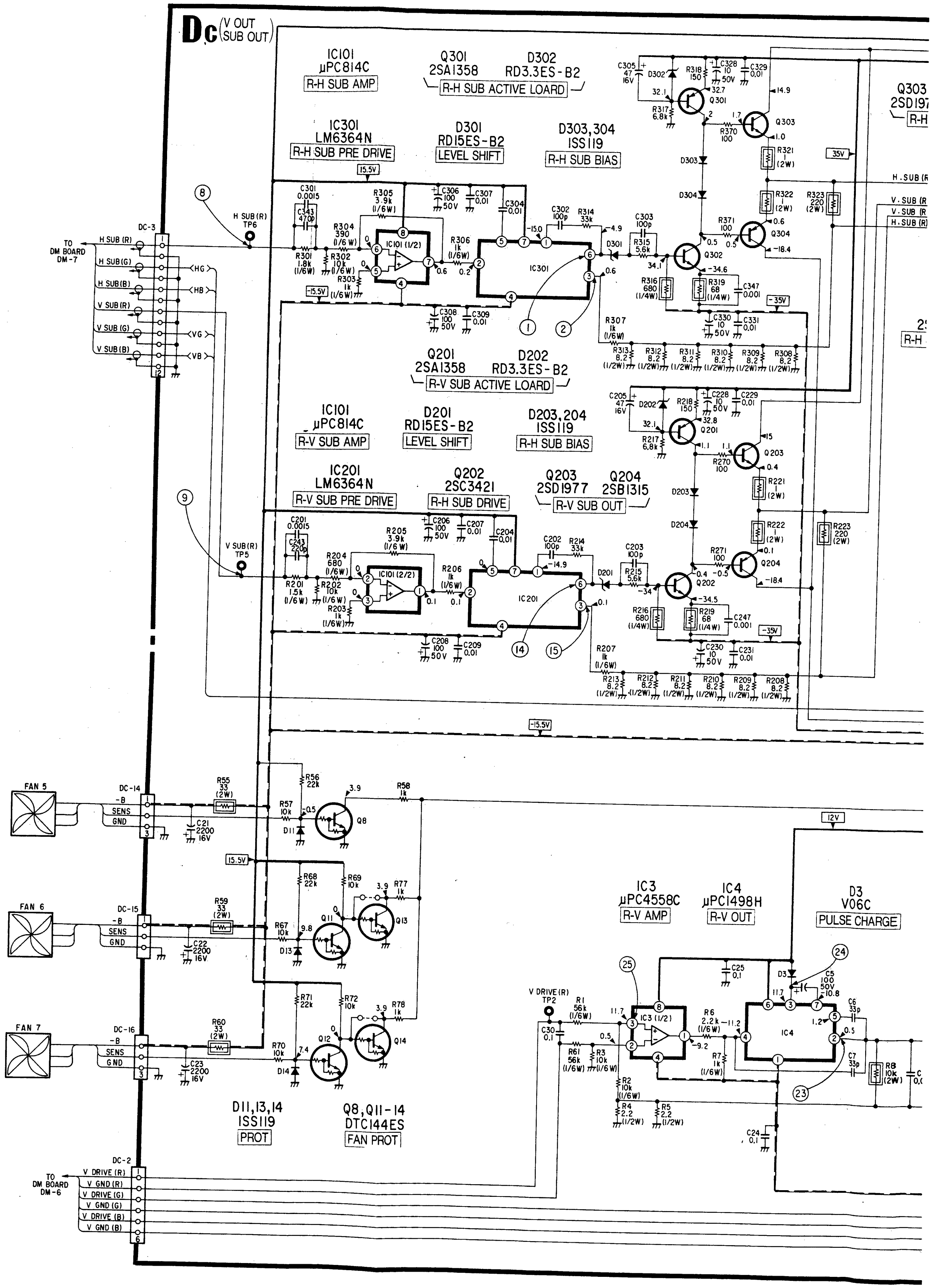
IC-No.	PIN-No.	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	HDTV
3	⑤	1.2	1.2	1.2	1.2	1.2	1.0
	⑥	6.0	6.0	6.0	6.0	6.0	6.2
	⑦	−10.8	−10.8	−10.8	−10.8	−10.8	−11
4	②	0.5	0.5	0.5	0.5	0.5	0.2
	③	11.7	11.7	11.7	11.7	11.7	11.9
	④	−11.3	−11.3	−11.3	−11.3	−11.3	−10.4
5	⑤	1.2	1.2	1.2	1.2	1.2	1
	⑦	−10.8	−10.8	−10.8	−10.8	−10.8	−11
6	②	0	0	0	0	0	−0.2
	③	11.7	11.7	11.7	11.7	11.7	11.9
	④	−11.2	−11.2	−11.2	−11.2	−11.2	−10.4
	⑤	−11.2	−11.2	−11.2	−11.2	−11.2	−11.4
7	⑤	1.2	1.2	1.2	1.2	1.2	1.0
	⑥	6.0	6.0	6.0	6.0	6.0	6.2
	⑦	−10.8	−10.8	−10.8	−10.8	−10.8	−11
8	②	0.7	0.7	0.7	0.7	0.7	0.4
	③	11.7	11.7	11.7	11.7	11.7	11.9
	④	−11.2	−11.2	−11.2	−11.2	−11.2	−11.4
	⑤	−11.3	−11.3	−11.3	−11.3	−11.3	−11.5
101	⑦	0.6	0.6	0.6	0.6	0.6	−0.2
102	⑦	1.3	1.3	1.3	1.3	1.3	1
103	⑦	1.3	1.3	1.3	1.3	1.3	1
201	⑥	−4.1	−4.1	−4.1	−4.1	−4.1	−3.8
202	⑥	−3.1	−3.1	−3.1	−3.1	−3.1	−2.8
203	⑥	−3.8	−3.8	−3.8	−3.8	−3.8	−3.6
302	①	−15.0	−15.0	−15.0	−15.0	−15.0	−14.8
	②	0.6	0.6	0.6	0.6	0.6	−0.2
	③	0.6	0.6	0.6	0.6	0.6	−0.2
	⑥	−4.9	−4.9	−4.9	−4.9	−4.9	−2.6
303	②	1.3	1.3	1.3	1.3	1.3	1
	③	1.3	1.3	1.3	1.3	1.3	1
	⑥	−4	−4	−4	−4	−4	−3.3

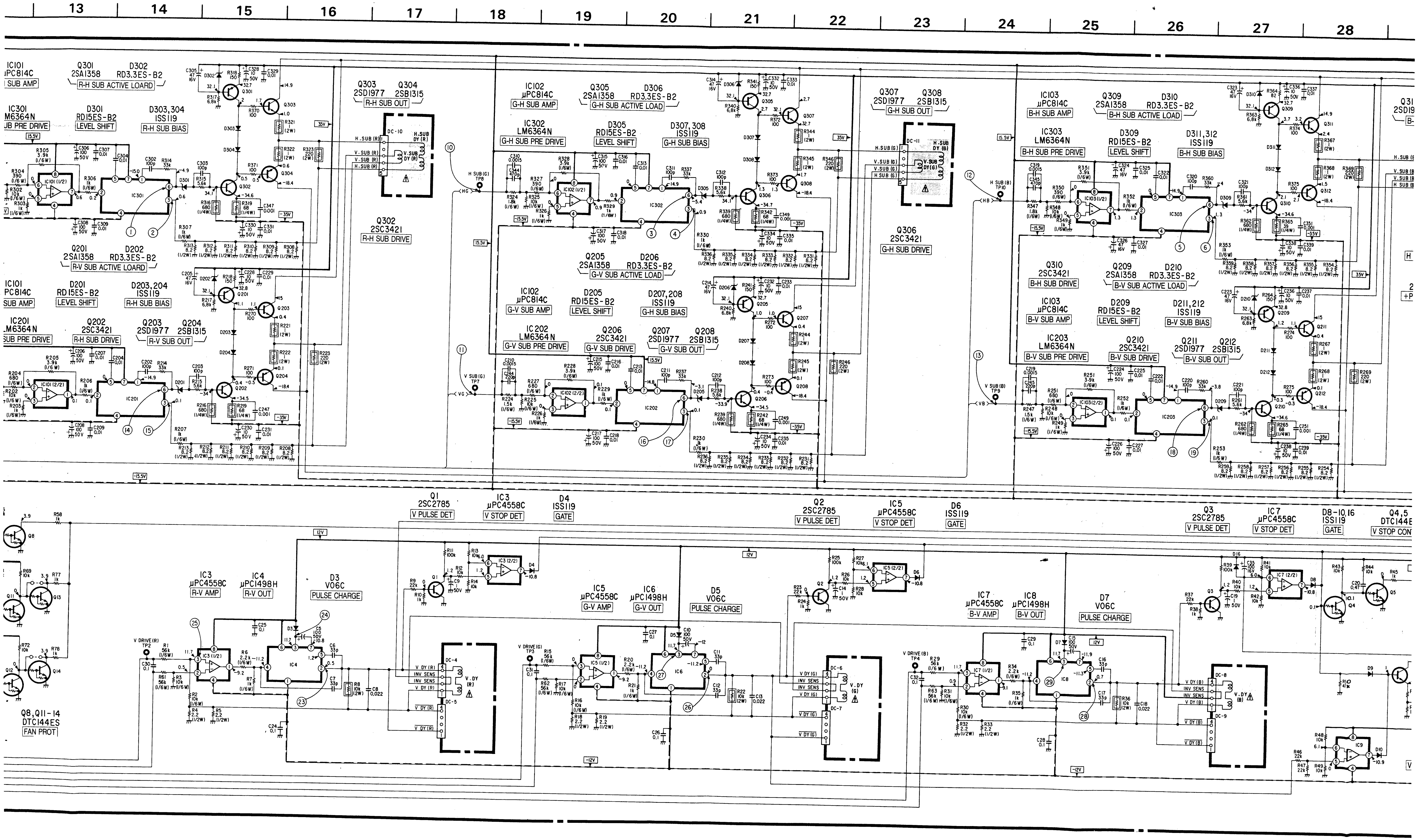
IC1 μPC7812H


IN
①
+12V
REG
③
OUT
②

IC2 μPC7912H


IN
②
−12V
REG
③
OUT
①


Dc (V OUT / SUB OUT)
IC101 μPC814C R-H SUB AMP
Q301 2SA1358
D302 RD3.3ES-B2
R-H SUB ACTIVE LOARD
IC301 LM6364N R-H SUB PRE DRIVE
D301 RD15ES-B2 LEVEL SHIFT
D303,304 1SS119 R-H SUB BIAS
Q303 2SD197
H SUB(R) TP6
TO DM BOARD DM-7
DC-3
H SUB(R)
H SUB(G)
H SUB(B)
V SUB(R)
V SUB(G)
V SUB(B)
HG
HB
VG
VB
Q201 2SA1358
D202 RD3.3ES-B2
R-V SUB ACTIVE LOARD
IC101 μPC814C R-V SUB AMP
D201 RD15ES-B2 LEVEL SHIFT
D203,204 1SS119 R-H SUB BIAS
IC201 LM6364N R-V SUB PRE DRIVE
Q202 2SC3421 R-H SUB DRIVE
Q203 2SD1977
Q204 2SB1315
R-V SUB OUT
V SUB(R) TP5
H.SUB(R)
V.SUB(R)
V.SUB(R)
H.SUB(R)
35V
15.5V
-15.5V
FAN 5
FAN 6
FAN 7
DC-14
DC-15
DC-16
-B
SENS
GND
D11,13,14 1SS119 PROT
Q8,Q11-14 DTC144ES FAN PROT
IC3 μPC4558C R-V AMP
IC4 μPC1498H R-V OUT
D3 V06C PULSE CHARGE
V DRIVE(R) TP2
12V
TO DM BOARD DM-6
DC-2
V DRIVE (R)
V GND (R)
V DRIVE (G)
V GND (G)
V DRIVE (B)
V GND (B)


13
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24
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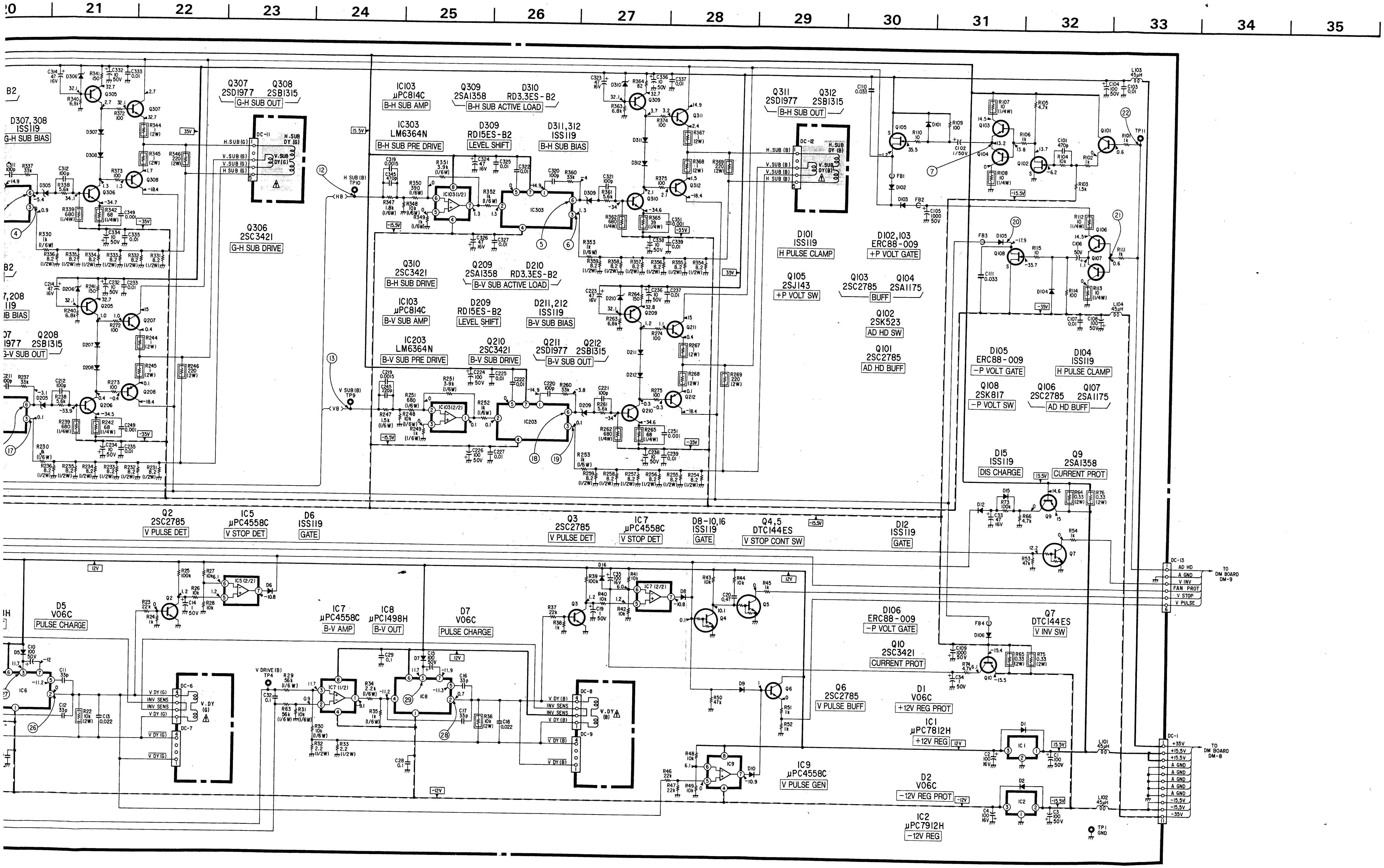
28
IC101 μPC814C R-H SUB AMP
Q301 2SA1358
D302 RD3.3ES-B2
R-H SUB ACTIVE LOARD
IC301 LM6364N R-H SUB PRE DRIVE
D301 RD15ES-B2 LEVEL SHIFT
D303,304 1SS119 R-H SUB BIAS
Q303 2SD1977
Q304 2SB1315
R-H SUB OUT
Q302 2SC3421 R-H SUB DRIVE
Q201 2SA1358
D202 RD3.3ES-B2
R-V SUB ACTIVE LOARD
IC101 μPC814C R-V SUB AMP
D201 RD15ES-B2 LEVEL SHIFT
D203,204 1SS119 R-H SUB BIAS
IC201 LM6364N R-V SUB PRE DRIVE
Q202 2SC3421 R-H SUB DRIVE
Q203 2SD1977
Q204 2SB1315
R-V SUB OUT
DC-10
H.SUB DY (R)
V.SUB DY (R)
H.SUB (R)
V.SUB (R)
V.SUB (R)
H.SUB (R)
H SUB (G) TP8
V SUB (G) TP7
IC102 μPC814C G-H SUB AMP
Q305 2SA1358
D306 RD3.3ES-B2
G-H SUB ACTIVE LOAD
IC302 LM6364N G-H SUB PRE DRIVE
D305 RD15ES-B2 LEVEL SHIFT
D307,308 1SS119 G-H SUB BIAS
Q307 2SD1977
Q308 2SB1315
G-H SUB OUT
Q306 2SC3421 G-H SUB DRIVE
DC-11
H.SUB DY (G)
V.SUB DY (G)
H.SUB (G)
V.SUB (G)
V.SUB (G)
H SUB (G)
Q205 2SA1358
D206 RD3.3ES-B2
G-V SUB ACTIVE LOAD
IC102 μPC814C G-V SUB AMP
D205 RD15ES-B2 LEVEL SHIFT
D207,208 1SS119 G-H SUB BIAS
IC202 LM6364N G-V SUB PRE DRIVE
Q206 2SC3421 G-V SUB DRIVE
Q207 2SD1977
Q208 2SB1315
G-V SUB OUT
H SUB (B) TP10
V SUB (B) TP9
IC103 μPC814C B-H SUB AMP
Q309 2SA1358
D310 RD3.3ES-B2
B-H SUB ACTIVE LOAD
IC303 LM6364N B-H SUB PRE DRIVE
D309 RD15ES-B2 LEVEL SHIFT
D311,312 1SS119 B-H SUB BIAS
Q310 2SC3421 B-H SUB DRIVE
Q209 2SA1358
D210 RD3.3ES-B2
B-V SUB ACTIVE LOAD
IC103 μPC814C B-V SUB AMP
D209 RD15ES-B2 LEVEL SHIFT
D211,212 1SS119 B-V SUB BIAS
IC203 LM6364N B-V SUB PRE DRIVE
Q210 2SC3421 B-V SUB DRIVE
Q211 2SD1977
Q212 2SB1315
B-V SUB OUT
Q31
2SD19
15.5V
-15.5V
35V
-35V
12V
-12V
Q8,Q11-14 DTC144ES FAN PROT
Q1 2SC2785 V PULSE DET
IC3 μPC4558C V STOP DET
D4 1SS119 GATE
IC3 μPC4558C R-V AMP
IC4 μPC1498H R-V OUT
D3 V06C PULSE CHARGE
V DRIVE (R) TP2
DC-4
DC-5
V. DY (R)
V DY (R)
INV SENS
INV SENS
V DY (R)
V DY (R)
V DY (R)
Q2 2SC2785 V PULSE DET
IC5 μPC4558C V STOP DET
D6 1SS119 GATE
IC5 μPC4558C G-V AMP
IC6 μPC1498H G-V OUT
D5 V06C PULSE CHARGE
V DRIVE (G) TP3
DC-6
DC-7
V. DY (G)
V DY (G)
INV SENS
INV SENS
V DY (G)
V DY (G)
V DY (G)
Q3 2SC2785 V PULSE DET
IC7 μPC4558C V STOP DET
D8-10,16 1SS119 GATE
Q4,5 DTC144E
V STOP CON
IC7 μPC4558C B-V AMP
IC8 μPC1498H B-V OUT
D7 V06C PULSE CHARGE
V DRIVE (B) TP4
DC-8
DC-9
V. DY (B)
V DY (B)
INV SENS
INV SENS
V DY (B)
V DY (B)
V DY (B)
IC9
D9
D10
D16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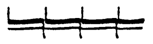
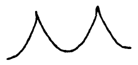
35
D307, 308
1SS119
G-H SUB BIAS
Q307 Q308
2SD1977 2SB1315
G-H SUB OUT
Q306
2SC3421
G-H SUB DRIVE
7,208
1SS119
B-V SUB BIAS
Q207 Q208
2SD1977 2SB1315
G-V SUB OUT
IC103
μPC814C
B-H SUB AMP
Q309 D310
2SA1358 RD3.3ES-B2
B-H SUB ACTIVE LOAD
IC303
LM6364N
B-H SUB PRE DRIVE
D309
RD15ES-B2
LEVEL SHIFT
D311,312
1SS119
B-H SUB BIAS
Q310
2SC3421
B-H SUB DRIVE
Q209 D210
2SA1358 RD3.3ES-B2
B-V SUB ACTIVE LOAD
IC103
μPC814C
B-V SUB AMP
D209
RD15ES-B2
LEVEL SHIFT
D211,212
1SS119
B-V SUB BIAS
IC203
LM6364N
B-V SUB PRE DRIVE
Q210
2SC3421
B-V SUB DRIVE
Q211 Q212
2SD1977 2SB1315
B-V SUB OUT
H SUB (B) TP10
V SUB (B) TP9
Q311 Q312
2SD1977 2SB1315
B-H SUB OUT
D101
1SS119
H PULSE CLAMP
D102,103
ERC88-009
+P VOLT GATE
Q105
2SJ143
+P VOLT SW
Q103 Q104
2SC2785 2SA1175
BUFF
Q102
2SK523
AD HD SW
Q101
2SC2785
AD HD BUFF
D105
ERC88-009
-P VOLT GATE
D104
1SS119
H PULSE CLAMP
Q108
2SK817
-P VOLT SW
Q106 Q107
2SC2785 2SA1175
AD HD BUFF
D15
1SS119
DIS CHARGE
Q9
2SA1358
CURRENT PROT
Q2
2SC2785
V PULSE DET
IC5
μPC4558C
V STOP DET
D6
1SS119
GATE
Q3
2SC2785
V PULSE DET
IC7
μPC4558C
V STOP DET
D8-10,16
1SS119
GATE
Q4,5
DTC144ES
V STOP CONT SW
D12
1SS119
GATE
D5
V06C
PULSE CHARGE
IC7
μPC4558C
B-V AMP
IC8
μPC1498H
B-V OUT
D7
V06C
PULSE CHARGE
D106
ERC88-009
-P VOLT GATE
Q7
DTC144ES
V INV SW
Q10
2SC3421
CURRENT PROT
Q6
2SC2785
V PULSE BUFF
D1
V06C
+12V REG PROT
IC1
μPC7812H
+12V REG
IC9
μPC4558C
V PULSE GEN
D2
V06C
-12V REG PROT
IC2
μPC7912H
-12V REG
V DRIVE (B) TP4
TP11
TP1 GND
DC-11 H.SUB DY (G)
DC-12 H.SUB DY (B)
DC-6
DC-7
DC-8
DC-9
V.DY (G)
V.DY (B)
DC-13
AD HD
A GND
V INV
FAN PROT
V STOP
V PULSE
TO DM BOARD DM-9
DC-1
+35V
+15.5V
+15.5V
A GND
A GND
A GND
A GND
A GND
-15.5V
-15.5V
-35V
TO DM BOARD DM-8
35V
15.5V
-15.5V
-35V
12V
-12V

①



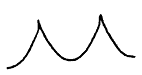
PAL	26 Vp-p(V)
SECAM	26 Vp-p(V)
NTSC3.58	26 Vp-p(V)
NTSC4.43	26 Vp-p(V)
S-VIDEO	26 Vp-p(V)
HDTV	26 Vp-p(V)

②



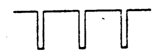
PAL	1.8 Vp-p(H)
SECAM	1.8 Vp-p(H)
NTSC3.58	1.8 Vp-p(H)
NTSC4.43	1.8 Vp-p(H)
S-VIDEO	1.8 Vp-p(H)

②



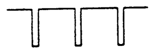
HDTV	2 Vp-p(H)

③



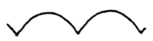
PAL	26 Vp-p(V)
SECAM	26 Vp-p(V)
NTSC3.58	26 Vp-p(V)
NTSC4.43	26 Vp-p(V)
S-VIDEO	26 Vp-p(V)
HDTV	26 Vp-p(V)

④



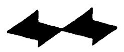
PAL	3 Vp-p(H)
SECAM	3 Vp-p(H)
NTSC3.58	3 Vp-p(H)
NTSC4.43	3 Vp-p(H)
S-VIDEO	3 Vp-p(H)

④



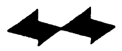
HDTV	1 Vc-p(H)

⑤



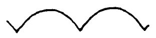
PAL	26 Vp-p(H)
SECAM	26 Vp-p(H)
NTSC3.58	26 Vp-p(H)
NTSC4.43	26 Vp-p(H)
S-VIDEO	26 Vp-p(H)
HDTV	26 Vp-p(H)

⑥



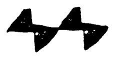
PAL	4.4 Vp-p(H)
SECAM	4.4 Vp-p(H)
NTSC3.58	4.4 Vp-p(H)
NTSC4.43	4.4 Vp-p(H)
S-VIDEO	4.4 Vp-p(H)

⑥



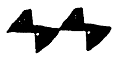
HDTV	3.4Vp-p(H)

⑦



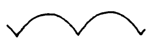
PAL	12 Vp-p(V)
SECAM	12 Vp-p(V)
NTSC3.58	12 Vp-p(V)
NTSC4.43	12 Vp-p(V)
S-VIDEO	12 Vp-p(V)

⑦



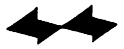
HDTV	14 Vp-p(H)

⑧



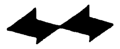
PAL	0.8Vp-p(H)
SECAM	0.8Vp-p(H)
NTSC3.58	0.8Vp-p(H)
NTSC4.43	0.8Vp-p(H)
S-VIDEO	0.8Vp-p(H)
HDTV	0.8Vp-p(H)

⑨



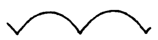
PAL	1.1Vp-p(H)
SECAM	1.1Vp-p(H)
NTSC3.58	1.1Vp-p(H)
NTSC4.43	1.1Vp-p(H)
S-VIDEO	1.1Vp-p(H)

⑨



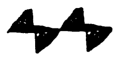
HDTV	2.0 Vp-p(H)

⑩



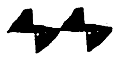
PAL	1.1Vp-p(V)
SECAM	1.1Vp-p(V)
NTSC3.58	1.1Vp-p(V)
NTSC4.43	1.1Vp-p(V)
S-VIDEO	1.1Vp-p(V)
HDTV	1.1Vp-p(V)

⑪



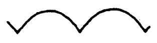
PAL	0.7 Vp-p(V)
SECAM	0.7 Vp-p(V)
NTSC3.58	0.7 Vp-p(V)
NTSC4.43	0.7 Vp-p(V)
S-VIDEO	0.7 Vp-p(V)

⑪



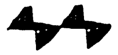
HDTV	1.3Vp-p(V)

⑬



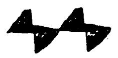
PAL	1.5 Vp-p(H)
SECAM	1.5 Vp-p(H)
NTSC3.58	1.5 Vp-p(H)
NTSC4.43	1.5 Vp-p(H)
S-VIDEO	1.5 Vp-p(H)
HDTV	1.5 Vp-p(H)

⑬



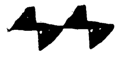
PAL	1.3 Vp-p(V)
SECAM	1.3 Vp-p(V)
NTSC3.58	1.3 Vp-p(V)
NTSC4.43	1.3 Vp-p(V)
S-VIDEO	1.3 Vp-p(V)

⑬



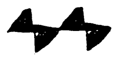
HDTV	2 Vp-p(V)

⑭



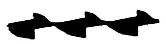
PAL	6 Vp-p(V)
SECAM	6 Vp-p(V)
NTSC3.58	6 Vp-p(V)
NTSC4.43	6 Vp-p(V)
S-VIDEO	6 Vp-p(V)

⑭



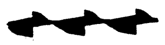
HDTV	10 Vp-p(V)

⑮



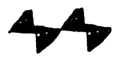
PAL	2 Vp-p(V)
SECAM	2 Vp-p(V)
NTSC3.58	2 Vp-p(V)
NTSC4.43	2 Vp-p(V)
S-VIDEO	2 Vp-p(V)

⑮



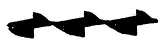
HDTV	4 Vp-p(V)

⑯



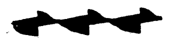
PAL	16 Vp-p(V)
SECAM	16 Vp-p(V)
NTSC3.58	16 Vp-p(V)
NTSC4.43	16 Vp-p(V)
S-VIDEO	16 Vp-p(V)
HDTV	16 Vp-p(V)

⑰



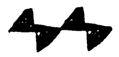
PAL	1.4Vp-p(V)
SECAM	1.4Vp-p(V)
NTSC3.58	1.4Vp-p(V)
NTSC4.43	1.4Vp-p(V)
S-VIDEO	1.4Vp-p(V)

⑰



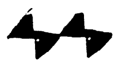
HDTV	3 Vp-p(V)

⑱



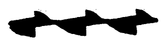
PAL	16Vp-p(V)
SECAM	16Vp-p(V)
NTSC3.58	16Vp-p(V)
NTSC4.43	16Vp-p(V)
S-VIDEO	16Vp-p(V)

⑱



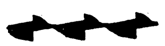
HDTV	20Vp-p(V)

⑲



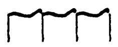
PAL	3.2Vp-p(V)
SECAM	3.2Vp-p(V)
NTSC3.58	3.2Vp-p(V)
NTSC4.43	3.2Vp-p(V)
S-VIDEO	3.2Vp-p(V)

⑲



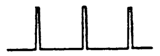
HDTV	5.2 Vp-p(V)

⑳



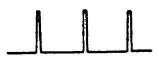
PAL	24Vp-p(V)
SECAM	24Vp-p(V)
NTSC3.58	24Vp-p(V)
NTSC4.43	24Vp-p(V)
S-VIDEO	24Vp-p(V)
HDTV	24Vp-p(V)

㉑



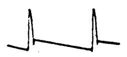
PAL	11 Vp-p(H)
SECAM	11 Vp-p(H)
NTSC3.58	11 Vp-p(H)
NTSC4.43	11 Vp-p(H)
S-VIDEO	11 Vp-p(H)
HDTV	11 Vp-p(H)

㉒



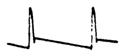
PAL	11.5 Vp-p(H)
SECAM	11.5 Vp-p(H)
NTSC3.58	11.5 Vp-p(H)
NTSC4.43	11.5 Vp-p(H)
S-VIDEO	11.5 Vp-p(H)
HDTV	11.5 Vp-p(H)

㉓



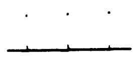
PAL	44 Vp-p(V)
SECAM	44 Vp-p(V)
NTSC3.58	44 Vp-p(V)
NTSC4.43	44 Vp-p(V)
S-VIDEO	44 Vp-p(V)

㉓



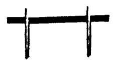
HDTV	46Vp-p(V)

㉔



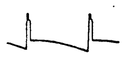
PAL	26Vp-p(V)
SECAM	26Vp-p(V)
NTSC3.58	26Vp-p(V)
NTSC4.43	26Vp-p(V)
S-VIDEO	26Vp-p(V)
HDTV	26Vp-p(V)

㉕



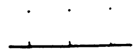
PAL	0.34Vp-p(V)
SECAM	0.34Vp-p(V)
NTSC3.58	0.34Vp-p(V)
NTSC4.43	0.34Vp-p(V)
S-VIDEO	0.34Vp-p(V)
HDTV	0.34Vp-p(V)

㉖



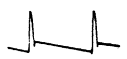
PAL	44 Vp-p(V)
SECAM	44 Vp-p(V)
NTSC3.58	44 Vp-p(V)
NTSC4.43	44 Vp-p(V)
S-VIDEO	44 Vp-p(V)
HDTV	44 Vp-p(V)

㉗



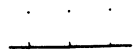
PAL	26 Vp-p(V)
SECAM	26 Vp-p(V)
NTSC3.58	26 Vp-p(V)
NTSC4.43	26 Vp-p(V)
S-VIDEO	26 Vp-p(V)
HDTV	26 Vp-p(V)

㉘



PAL	44 Vp-p(V)
SECAM	44 Vp-p(V)
NTSC3.58	44 Vp-p(V)
NTSC4.43	44 Vp-p(V)
S-VIDEO	44 Vp-p(V)
HDTV	44 Vp-p(V)

㉙



PAL	26 Vp-p(V)
SECAM	26 Vp-p(V)
NTSC3.58	26 Vp-p(V)
NTSC4.43	26 Vp-p(V)
S-VIDEO	26 Vp-p(V)
HDTV	26 Vp-p(V)

DC [V OUT, SUB OUT]

DC BOARD

IC	
IC1	F - 5
IC2	G - 5
IC3	I - 2
IC4	I - 4
IC5	G - 2
IC6	G - 4
IC7	E - 2
IC8	D - 4
IC9	D - 3
IC101	E - 8
IC102	E - 10
IC103	E - 12
IC201	D - 7
IC202	D - 10
IC203	C - 12
IC301	G - 8
IC302	G - 9
IC303	G - 12

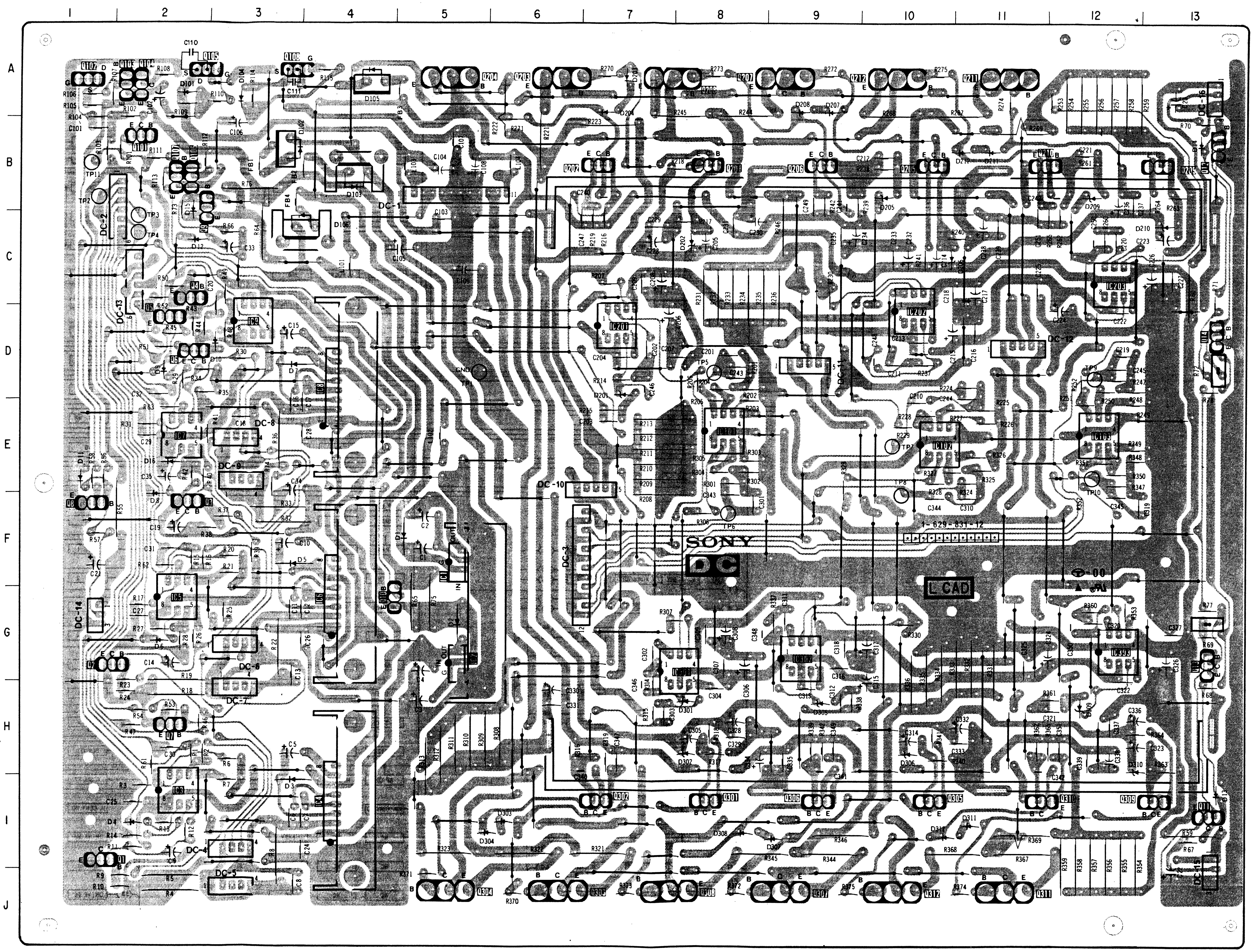
TRANSISTOR	
Q1	I - 1
Q2	G - 1
Q3	F - 2
Q4	C - 2
Q5	D - 2
Q6	D - 2
Q7	H - 2
Q8	F - 1
Q9	B - 2
Q10	G - 4
Q11	I - 13
Q12	B - 12
Q13	G - 13
Q14	D - 13
Q101	B - 2
Q102	A - 1
Q103	A - 2
Q104	A - 2
Q105	A - 2
Q106	B - 2
Q107	B - 2
Q108	A - 3
Q201	B - 8
Q202	B - 7
Q203	A - 6
Q204	A - 5
Q205	B - 10
Q206	B - 9
Q207	A - 9
Q208	A - 7
Q209	B - 12
Q210	B - 11
Q211	A - 11
Q212	A - 10
Q301	I - 8
Q302	I - 7
Q303	J - 6
Q304	J - 5
Q305	I - 10
Q306	I - 9
Q307	J - 9
Q308	J - 8
Q309	I - 13
Q310	I - 12
Q311	J - 11
Q312	J - 10

DIODE	
D1	F - 5
D2	G - 5
D3	I - 3
D4	I - 2
D5	F - 3
D6	G - 2
D7	D - 3
D8	F - 2
D9	D - 2
D10	D - 3
D11	F - 1
D12	C - 2
D13	I - 13
D14	B - 12
D15	B - 2
D16	E - 2
D101	A - 2
D102	A - 3
D103	B - 3
D104	A - 4
D105	A - 4
D106	C - 4
D201	D - 7
D202	C - 8
D203	A - 7
D204	A - 7
D205	B - 10
D206	C - 10
D207	A - 9
D208	A - 9
D209	B - 13
D210	C - 13
D211	B - 11
D212	B - 11
D301	H - 8
D302	H - 8
D303	I - 6
D304	I - 6
D305	H - 9
D306	H - 10
D307	I - 9
D308	I - 8
D309	H - 12
D310	I - 12
D311	I - 11
D312	I - 10

- DC BOARD -

ODE

F - 5
G - 5
I - 3
I - 2
F - 3
G - 2
D - 3
F - 2
D - 2
D - 3
F - 1
C - 2
I - 13
B - 12
B - 2
E - 2
A - 2
A - 3
B - 3
A - 4
A - 4
C - 4
D - 7
C - 8
A - 7
A - 7
B - 10
C - 10
A - 9
A - 9
B - 13
C - 13
B - 11
B - 11
H - 8
H - 8
I - 6
I - 6
H - 9
H - 10
I - 9
I - 8
H - 12
I - 12
I - 11
I - 10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A
B
C
D
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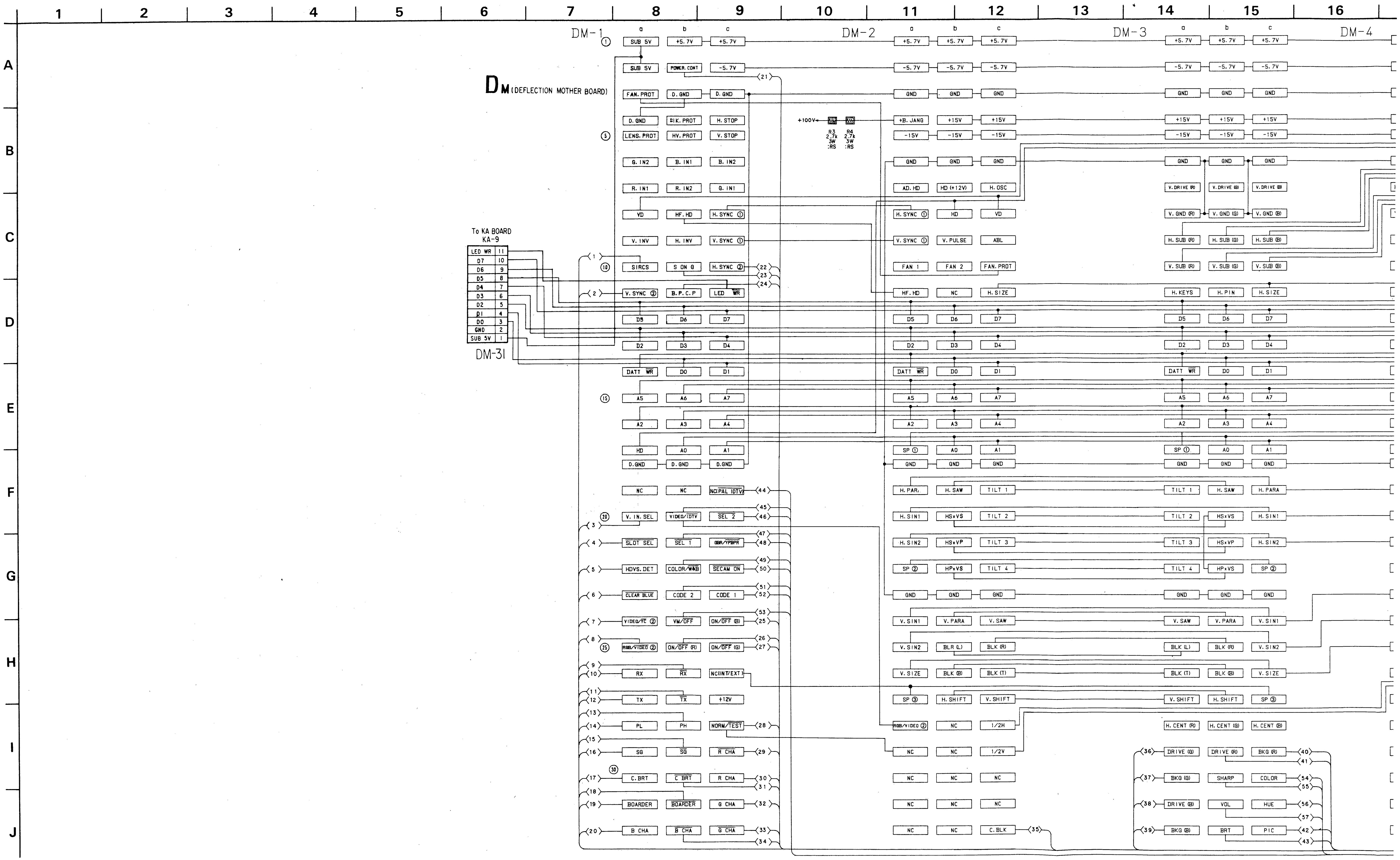
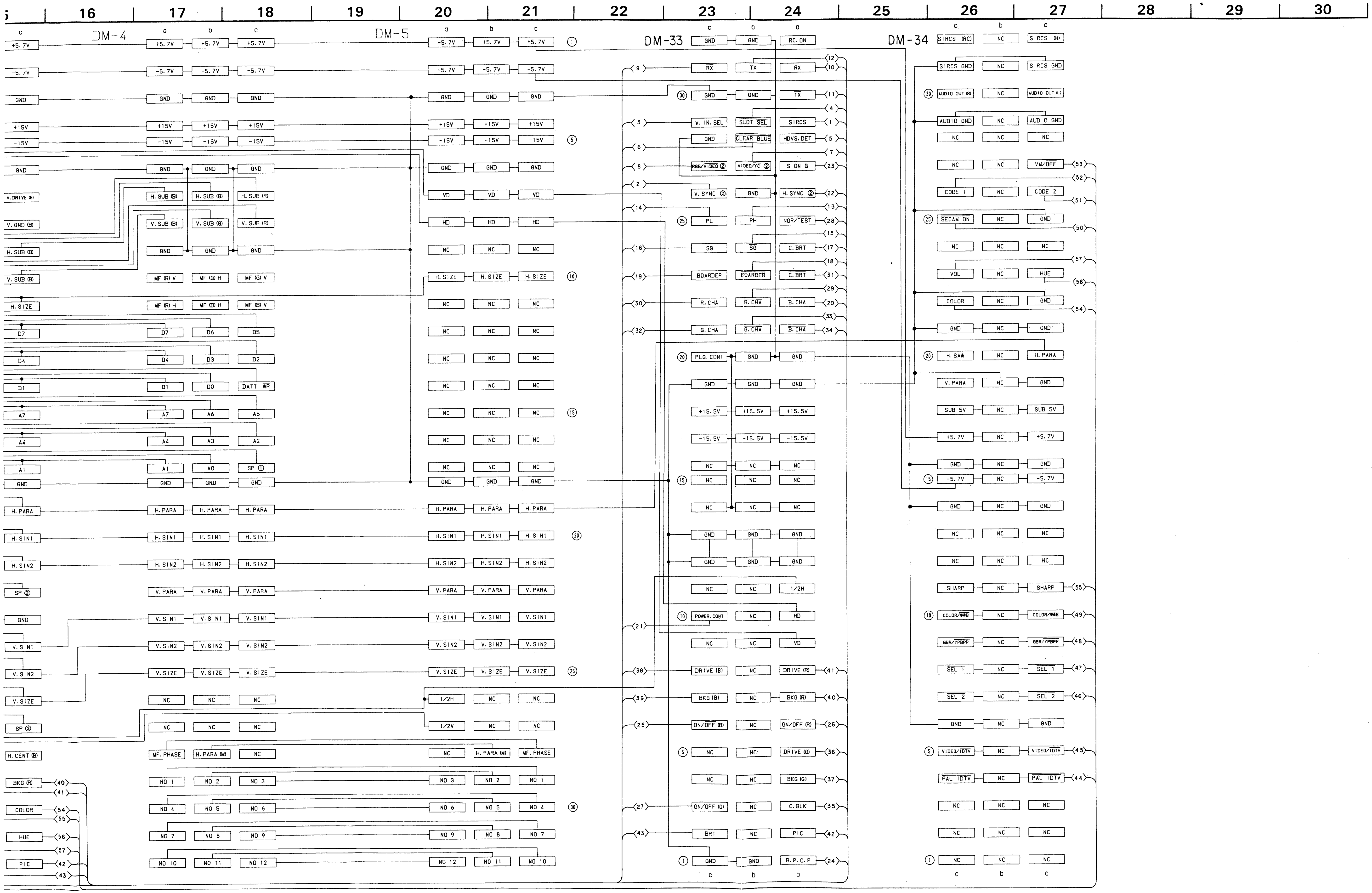
F
G
H
I
J
SONY
DC
L CAD
1-629-831-12
DC-1
DC-2
DC-3
DC-4
DC-5
DC-6
DC-7
DC-8
DC-9
DC-10
DC-11
DC-12
DC-13
DC-14
DC-15
DC-16


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
DM (DEFLECTION MOTHER BOARD)
DM-1
DM-2
DM-3
DM-4
a b c
To KA BOARD
KA-9
LED WR 11
D7 10
D6 9
D5 8
D4 7
D3 6
D2 5
D1 4
D0 3
GND 2
SUB 5V 1
DM-31
SUB 5V +5.7V +5.7V
SUB 5V POWER.CONT -5.7V
FAN.PROT D.GND D.GND
D.GND BLK.PROT H.STOP
LENS.PROT HV.PROT V.STOP
G.IN2 B.IN1 B.IN2
R.IN1 R.IN2 G.IN1
VD HF.HD H.SYNC ①
V.INV H.INV V.SYNC ①
SIRCS S ON G H.SYNC ②
V.SYNC ② B.P.C.P LED WR
D5 D6 D7
D2 D3 D4
DATT WR D0 D1
A5 A6 A7
A2 A3 A4
HD A0 A1
D.GND D.GND D.GND
NC NC NC(PAL IDTV)
V.IN.SEL VIDEO/IDTV SEL 2
SLOT SEL SEL 1 GBR/YPBPR
HDVS.DET COLOR/W&B SECAM ON
CLEAR BLUE CODE 2 CODE 1
VIDEO/YC ② VM/OFF ON/OFF (B)
RGB/VIDEO ② ON/OFF (R) ON/OFF (G)
RX RX NC(INT/EXT)
TX TX +12V
PL PH NORM/TEST
SG SG R CHA
C.BRT C BRT R CHA
BOARDER BOARDER G CHA
B CHA B CHA G CHA
+100V
R3 2.7k 3W :RS
R4 2.7k 3W :RS
+5.7V +5.7V +5.7V
-5.7V -5.7V -5.7V
GND GND GND
+B.JANG +15V +15V
-15V -15V -15V
GND GND GND
AD.HD HD (+12V) H.OSC
H.SYNC ① HD VD
V.SYNC ① V.PULSE ABL
FAN 1 FAN 2 FAN.PROT
HF.HD NC H.SIZE
D5 D6 D7
D2 D3 D4
DATT WR D0 D1
A5 A6 A7
A2 A3 A4
SP ① A0 A1
GND GND GND
H.PAR. H.SAW TILT 1
H.SIN1 HS×VS TILT 2
H.SIN2 HS×VP TILT 3
SP ② HP×VS TILT 4
GND GND GND
V.SIN1 V.PARA V.SAW
V.SIN2 BLR (L) BLK (R)
V.SIZE BLK (B) BLK (T)
SP ③ H.SHIFT V.SHIFT
RGB/VIDEO ② NC 1/2H
NC NC 1/2V
NC NC NC
NC NC NC
NC NC C.BLK
+5.7V +5.7V +5.7V
-5.7V -5.7V -5.7V
GND GND GND
+15V +15V +15V
-15V -15V -15V
GND GND GND
V.DRIVE (R) V.DRIVE (G) V.DRIVE (B)
V.GND (R) V.GND (G) V.GND (B)
H.SUB (R) H.SUB (G) H.SUB (B)
V.SUB (R) V.SUB (G) V.SUB (B)
H.KEYS H.PIN H.SIZE
D5 D6 D7
D2 D3 D4
DATT WR D0 D1
A5 A6 A7
A2 A3 A4
SP ① A0 A1
GND GND GND
TILT 1 H.SAW H.PARA
TILT 2 HS×VS H.SIN1
TILT 3 HS×VP H.SIN2
TILT 4 HP×VS SP ②
GND GND GND
V.SAW V.PARA V.SIN1
BLK (L) BLK (R) V.SIN2
BLK (T) BLK (B) V.SIZE
V.SHIFT H.SHIFT SP ③
H.CENT (R) H.CENT (G) H.CENT (B)
DRIVE (G) DRIVE (R) BKG (R)
BKG (G) SHARP COLOR
DRIVE (B) VOL HUE
BKG (B) BRT PIC
① ⑤ ⑩ ⑮ ⑳ ㉕ ㉚
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57


16
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25
26
27
28
29
30
DM-4
DM-5
DM-33
DM-34
a
b
c
+5.7V
-5.7V
GND
+15V
-15V
V.DRIVE (B)
V.GND (B)
H.SUB (B)
V.SUB (B)
H.SIZE
H.SUB (G)
H.SUB (R)
V.SUB (G)
V.SUB (R)
MF (R) V
MF (G) H
MF (G) V
MF (R) H
MF (B) H
MF (B) V
D7
D6
D5
D4
D3
D2
D1
D0
DATT WR
A7
A6
A5
A4
A3
A2
A1
A0
SP ①
SP ②
SP ③
H.PARA
H.SIN1
H.SIN2
V.PARA
V.SIN1
V.SIN2
V.SIZE
H.CENT (B)
BKG (R)
COLOR
HUE
PIC
VD
HD
NC
1/2H
1/2V
MF.PHASE
H.PARA (M)
NO 1
NO 2
NO 3
NO 4
NO 5
NO 6
NO 7
NO 8
NO 9
NO 10
NO 11
NO 12
RC.ON
RX
TX
V.IN.SEL
SLOT SEL
SIRCS
CLEAR BLUE
HDVS.DET
RGB/VIDEO ②
VIDEO/YC ②
S ON G
V.SYNC ②
H.SYNC ②
PL
PH
NOR/TEST
SG
C.BRT
BOARDER
R.CHA
G.CHA
B.CHA
PLG.CONT
+15.5V
-15.5V
POWER.CONT
DRIVE (B)
DRIVE (R)
BKG (B)
BKG (R)
ON/OFF (B)
ON/OFF (R)
DRIVE (G)
BKG (G)
ON/OFF (G)
C.BLK
BRT
B.P.C.P
SIRCS (RC)
SIRCS (N)
SIRCS GND
AUDIO OUT (R)
AUDIO OUT (L)
AUDIO GND
VM/OFF
CODE 1
CODE 2
SECAM ON
VOL
H.SAW
SUB 5V
SHARP
COLOR/W&B
GBR/YPBPR
SEL 1
SEL 2
VIDEO/IDTV
PAL IDTV
①
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⑩
⑮
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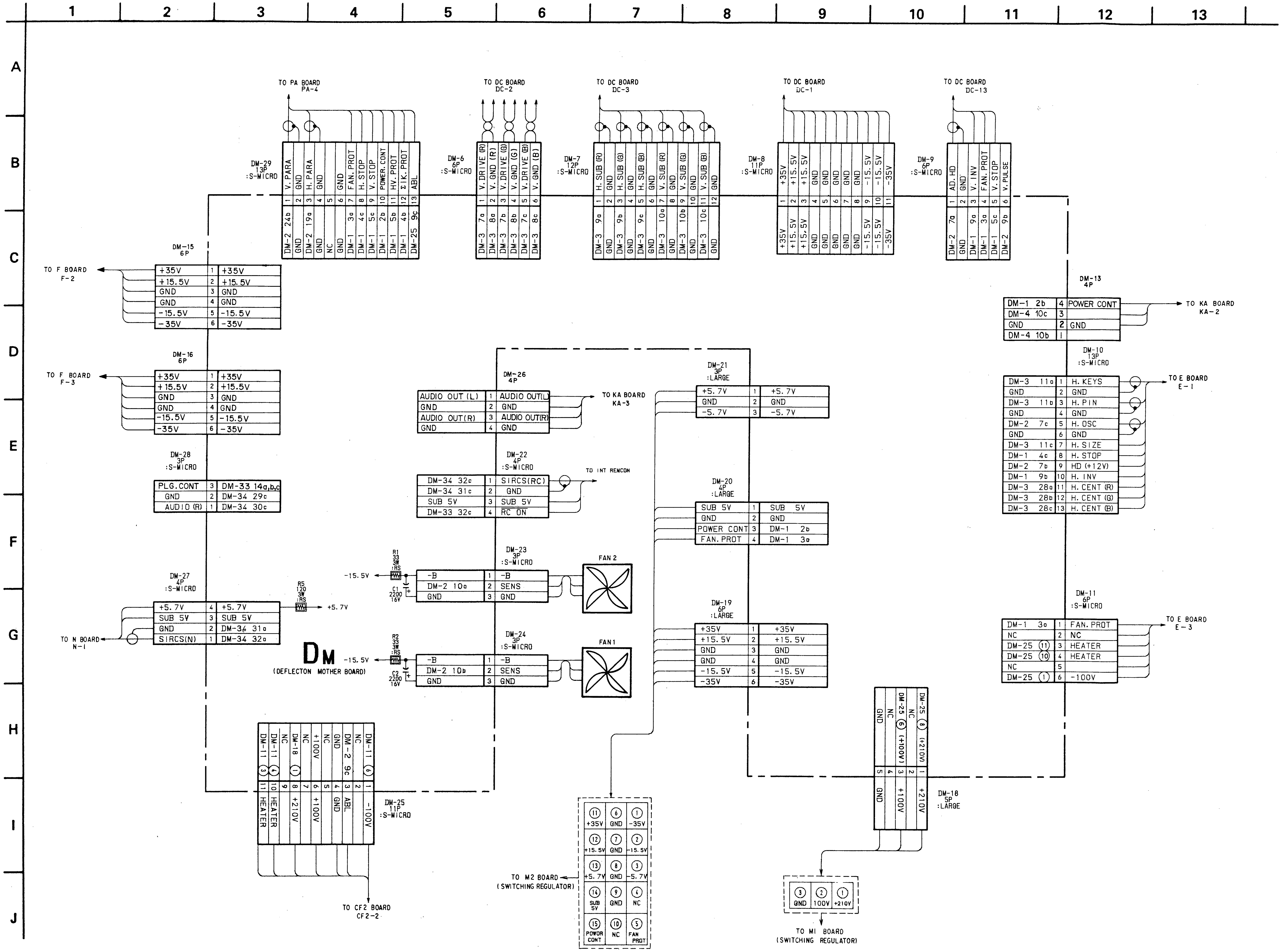
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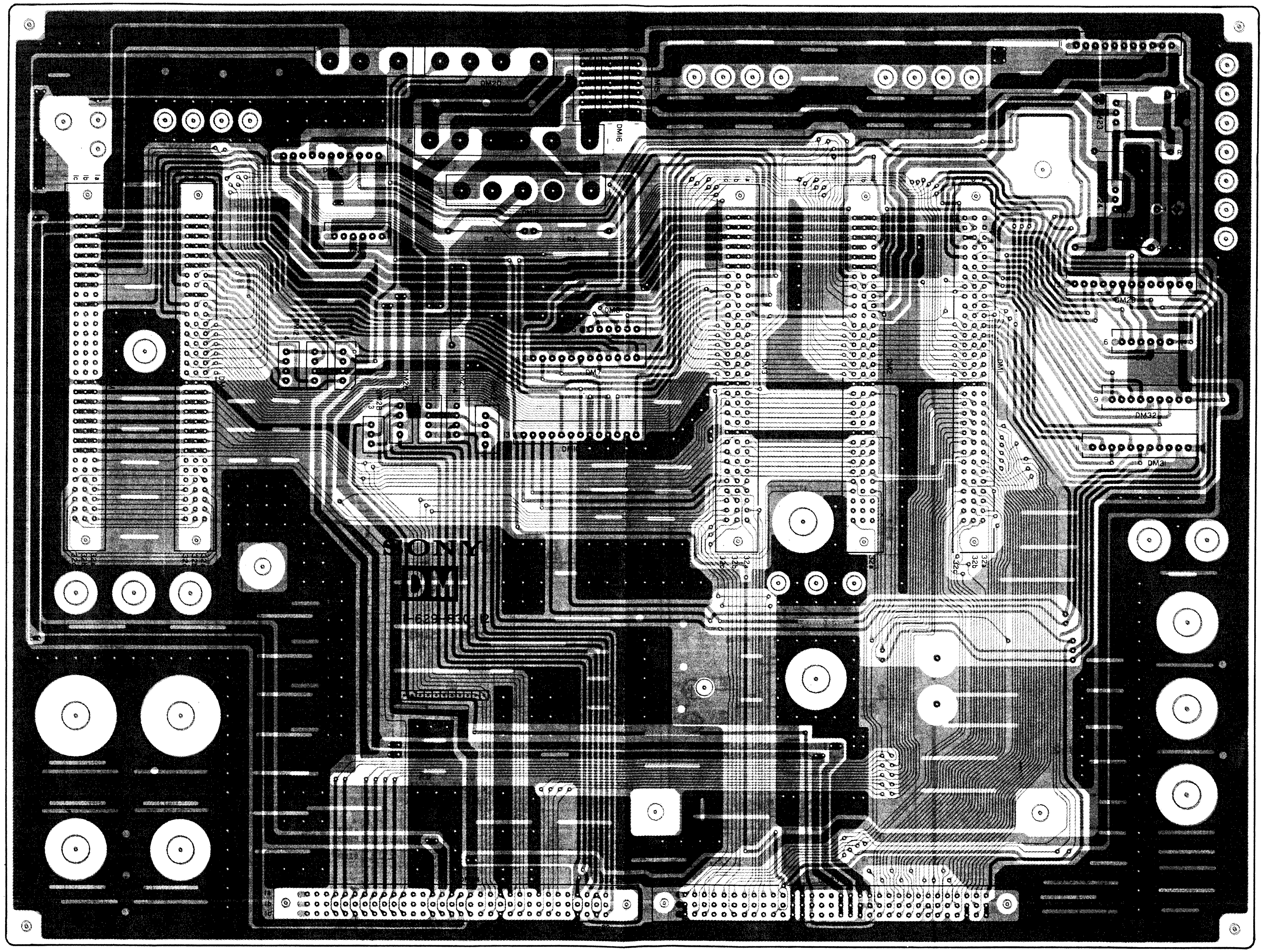
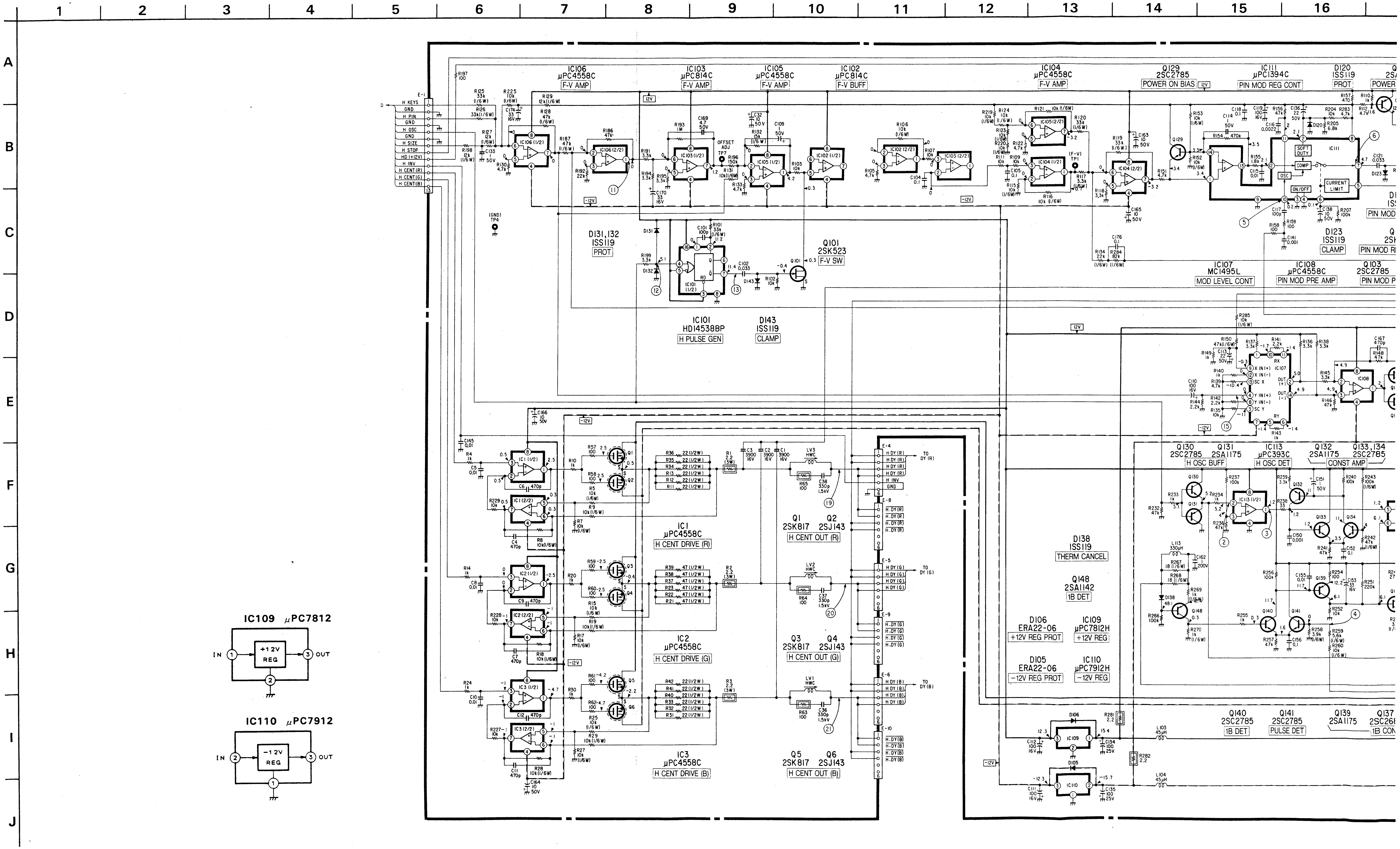
H
I
J
TO PA BOARD PA-4
DM-29 13P :S-MICRO
1 V. PARA DM-2 24b
2 GND GND
3 H. PARA DM-2 19a
4 GND GND
5 NC
6 GND GND
7 FAN. PROT DM-1 3a
8 H. STOP DM-1 4c
9 V. STOP DM-1 5c
10 POWER. CONT DM-1 2b
11 HV. PROT DM-1 5b
12 ΣIK. PROT DM-1 4b
13 ABL DM-25 9c
TO DC BOARD DC-2
DM-6 6P :S-MICRO
1 V. DRIVE (R) DM-3 7a
2 V. GND (R) DM-3 8a
3 V. DRIVE (G) DM-3 7b
4 V. GND (G) DM-3 8b
5 V. DRIVE (B) DM-3 7c
6 V. GND (B) DM-3 8c
TO DC BOARD DC-3
DM-7 12P :S-MICRO
1 H. SUB (R) DM-3 9a
2 GND GND
3 H. SUB (G) DM-3 9b
4 GND GND
5 H. SUB (B) DM-3 9c
6 GND GND
7 V. SUB (R) DM-3 10a
8 GND GND
9 V. SUB (G) DM-3 10b
10 GND GND
11 V. SUB (B) DM-3 10c
12 GND GND
TO DC BOARD DC-1
DM-8 11P :S-MICRO
1 +35V +35V
2 +15.5V +15.5V
3 +15.5V +15.5V
4 GND GND
5 GND GND
6 GND GND
7 GND GND
8 GND GND
9 -15.5V -15.5V
10 -15.5V -15.5V
11 -35V -35V
TO DC BOARD DC-13
DM-9 6P :S-MICRO
1 AD. HD DM-2 7a
2 GND GND
3 V. INV DM-1 9a
4 FAN. PROT DM-1 3a
5 V. STOP DM-1 5c
6 V. PULSE DM-2 9b
TO F BOARD F-2
DM-15 6P
+35V 1 +35V
+15.5V 2 +15.5V
GND 3 GND
GND 4 GND
-15.5V 5 -15.5V
-35V 6 -35V
TO F BOARD F-3
DM-16 6P
+35V 1 +35V
+15.5V 2 +15.5V
GND 3 GND
GND 4 GND
-15.5V 5 -15.5V
-35V 6 -35V
DM-28 3P :S-MICRO
PLG. CONT 3 DM-33 14a,b,c
GND 2 DM-34 29c
AUDIO (R) 1 DM-34 30c
DM-27 4P :S-MICRO
TO N BOARD N-1
+5.7V 4 +5.7V
SUB 5V 3 SUB 5V
GND 2 DM-34 31a
SIRCS(N) 1 DM-34 32a
R5 120 3W :RS
+5.7V
DM
(DEFLECTON MOTHER BOARD)
DM-26 4P
AUDIO OUT (L) 1 AUDIO OUT(L)
GND 2 GND
AUDIO OUT(R) 3 AUDIO OUT(R)
GND 4 GND
TO KA BOARD KA-3
DM-22 4P :S-MICRO
DM-34 32c 1 SIRCS(RC)
DM-34 31c 2 GND
SUB 5V 3 SUB 5V
DM-33 32c 4 RC ON
TO INT REMCON
DM-23 3P :S-MICRO
-15.5V
R1 33 3W :RS
C1 2200 16V
-B 1 -B
DM-2 10a 2 SENS
GND 3 GND
FAN 2
DM-24 3P :S-MICRO
-15.5V
R2 33 3W :RS
C2 2200 16V
-B 1 -B
DM-2 10b 2 SENS
GND 3 GND
FAN 1
DM-21 3P :LARGE
+5.7V 1 +5.7V
GND 2 GND
-5.7V 3 -5.7V
DM-20 4P :LARGE
SUB 5V 1 SUB 5V
GND 2 GND
POWER CONT 3 DM-1 2b
FAN. PROT 4 DM-1 3a
DM-19 6P :LARGE
+35V 1 +35V
+15.5V 2 +15.5V
GND 3 GND
GND 4 GND
-15.5V 5 -15.5V
-35V 6 -35V
DM-13 4P
DM-1 2b 4 POWER CONT
DM-4 10c 3
GND 2 GND
DM-4 10b 1
TO KA BOARD KA-2
DM-10 13P :S-MICRO
DM-3 11a 1 H. KEYS
GND 2 GND
DM-3 11b 3 H. PIN
GND 4 GND
DM-2 7c 5 H. OSC
GND 6 GND
DM-3 11c 7 H. SIZE
DM-1 4c 8 H. STOP
DM-2 7b 9 HD (+12V)
DM-1 9b 10 H. INV
DM-3 28a 11 H. CENT (R)
DM-3 28b 12 H. CENT (G)
DM-3 28c 13 H. CENT (B)
TO E BOARD E-1
DM-11 6P :S-MICRO
DM-1 3a 1 FAN. PROT
NC 2 NC
DM-25 ⑪ 3 HEATER
DM-25 ⑩ 4 HEATER
NC 5
DM-25 ① 6 -100V
TO E BOARD E-3
DM-25 11P :S-MICRO
DM-11 ⑥ 1 -100V
NC 2
DM-2 9c 3 ABL
GND 4 GND
NC 5
+100V 6 +100V
NC 7
DM-18 ① 8 +210V
NC 9
DM-11 ④ 10 HEATER
DM-11 ③ 11 HEATER
TO CF2 BOARD CF2-2
DM-18 5P :LARGE
DM-25 ⑧ (+210V) 1 +210V
NC 2
DM-25 ⑥ (+100V) 3 +100V
NC 4
GND 5 GND
TO M2 BOARD (SWITCHING REGULATOR)
⑪ +35V
⑥ GND
① -35V
⑫ +15.5V
⑦ GND
② -15.5V
⑬ +5.7V
⑧ GND
③ -5.7V
⑭ SUB 5V
⑨ GND
④ NC
⑮ POWOR CONT
⑩ NC
⑤ FAN PROT
③ GND
② 100V
① +210V
TO MI BOARD (SWITCHING REGULATOR)

– DM BOARD –

DM [DEFLECTION MOTHER BOARD]


SONY
DM
DM16
DM28
DM32
DM31
DM7
DM3
DM1

- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.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A
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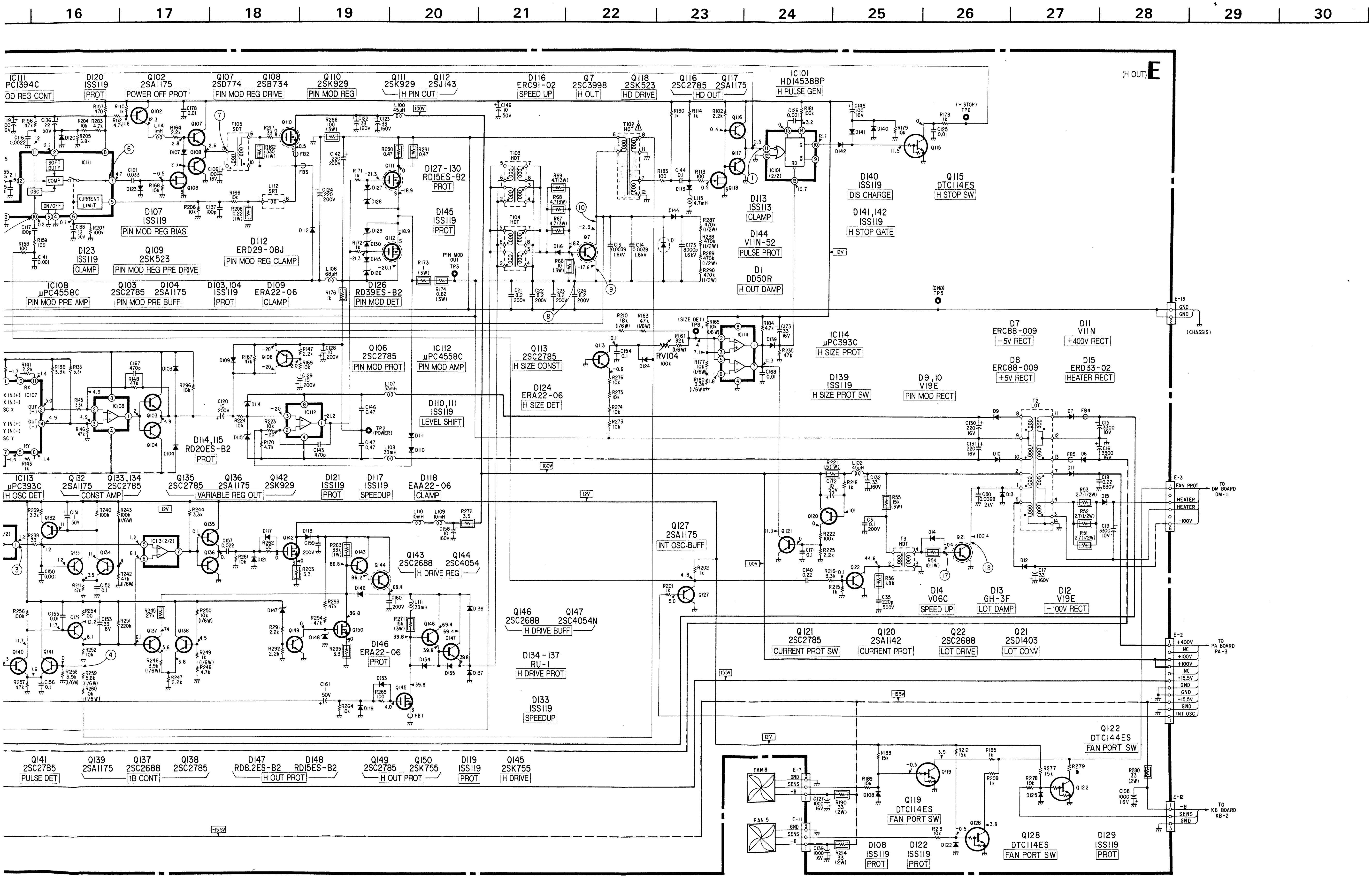
F
G
H
I
J
IC106 µPC4558C F-V AMP
IC103 µPC814C F-V AMP
IC105 µPC4558C F-V AMP
IC102 µPC814C F-V BUFF
IC104 µPC4558C F-V AMP
Q129 2SC2785 POWER ON BIAS
IC111 µPC1394C PIN MOD REG CONT
D120 ISS119 PROT
H KEYS
GND
H PIN
GND
H OSC
GND
H SIZE
H STOP
HD (+12V)
H INV
H CENT (R)
H CENT (G)
H CENT (B)
E-1
(GND) TP4
OFFSET ADJ TP7
(F-V) TP1
D131,132 ISS119 PROT
Q101 2SK523 F-V SW
IC101 HD14538BP H PULSE GEN
D143 ISS119 CLAMP
D123 ISS119 CLAMP
IC107 MC1495L MOD LEVEL CONT
IC108 µPC4558C PIN MOD PRE AMP
Q103 2SC2785 PIN MOD P
SOFT DUTY
COMP
OSC
ON/OFF
CURRENT LIMIT
IC1 µPC4558C H CENT DRIVE (R)
Q1 2SK817 Q2 2SJ143 H CENT OUT (R)
IC2 µPC4558C H CENT DRIVE (G)
Q3 2SK817 Q4 2SJ143 H CENT OUT (G)
IC3 µPC4558C H CENT DRIVE (B)
Q5 2SK817 Q6 2SJ143 H CENT OUT (B)
LV1 HWC
LV2 HWC
LV3 HWC
TO DY (R)
TO DY (G)
TO DY (B)
E-4
E-5
E-6
E-8
E-9
E-10
H DY (R)
H DY (G)
H DY (B)
H INV
GND
D138 ISS119 THERM CANCEL
Q148 2SA1142 1B DET
D106 ERA22-06 +12V REG PROT
IC109 µPC7812H +12V REG
D105 ERA22-06 −12V REG PROT
IC110 µPC7912H −12V REG
Q130 2SC2785 H OSC BUFF
Q131 2SA1175
IC113 µPC393C H OSC DET
Q132 2SA1175
Q133,134 2SC2785 CONST AMP
Q140 2SC2785 1B DET
Q141 2SC2785 PULSE DET
Q139 2SA1175
Q137 2SC26 1B CON
L103 45µH
L104 45µH
12V
−12V
IC109 µPC7812
IN
+12V REG
OUT
IC110 µPC7912
−12V REG

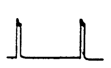

16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
(H OUT) E
IC111 μPC1394C
OD REG CONT
D120 ISS119 PROT
Q102 2SA1175 POWER OFF PROT
Q107 2SD774 Q108 2SB734 PIN MOD REG DRIVE
Q110 2SK929 PIN MOD REG
Q111 2SK929 Q112 2SJ143 H PIN OUT
D116 ERC91-02 SPEED UP
Q7 2SC3998 H OUT
Q118 2SK523 HD DRIVE
Q116 2SC2785 Q117 2SA1175 HD OUT
IC101 HD14538BP H PULSE GEN
SOFT DUTY
COMP
OSC
CURRENT LIMIT
ON/OFF
D107 ISS119 PIN MOD REG BIAS
D127-130 RD15ES-B2 PROT
D145 ISS119 PROT
D112 ERD29-08J PIN MOD REG CLAMP
D123 ISS119 CLAMP
Q109 2SK523 PIN MOD REG PRE DRIVE
D113 ISS113 CLAMP
D144 V11N-52 PULSE PROT
D1 DD50R H OUT DAMP
D140 ISS119 DIS CHARGE
D141,142 ISS119 H STOP GATE
Q115 DTC114ES H STOP SW
(H STOP) TP6
PIN MOD OUT TP3
IC108 μPC4558C PIN MOD PRE AMP
Q103 2SC2785 Q104 2SA1175 PIN MOD PRE BUFF
D103,104 ISS119 PROT
D109 ERA22-06 CLAMP
D126 RD39ES-B2 PIN MOD DET
(GND) TP5
E-13 GND GND
(CHASSIS)
(SIZE DET) TP8
RV104 100k
IC114 μPC393C H SIZE PROT
Q106 2SC2785 PIN MOD PROT
IC112 μPC4558C PIN MOD AMP
Q113 2SC2785 H SIZE CONST
D124 ERA22-06 H SIZE DET
D139 ISS119 H SIZE PROT SW
D9,10 V19E PIN MOD RECT
D7 ERC88-009 -5V RECT
D8 ERC88-009 +5V RECT
D11 V11N +400V RECT
D15 ERD33-02 HEATER RECT
TP2 (POWER)
D110,111 ISS119 LEVEL SHIFT
D114,115 RD20ES-B2 PROT
T2 LOT
IC113 μPC393C H OSC DET
Q132 2SA1175
Q133,134 2SC2785 CONST AMP
Q135 2SC2785 Q136 2SA1175 VARIABLE REG OUT
Q142 2SK929
D121 ISS119 PROT
D117 ISS119 SPEEDUP
D118 EAA22-06 CLAMP
Q143 2SC2688 Q144 2SC4054 H DRIVE REG
Q127 2SA1175 INT OSC-BUFF
Q146 2SC2688 Q147 2SC4054N H DRIVE BUFF
D146 ERA22-06 PROT
D134-137 RU-1 H DRIVE PROT
D133 ISS119 SPEEDUP
D14 V06C SPEED UP
D13 GH-3F LOT DAMP
D12 V19E -100V RECT
Q121 2SC2785 CURRENT PROT SW
Q120 2SA1142 CURRENT PROT
Q22 2SC2688 LOT DRIVE
Q21 2SD1403 LOT CONV
E-3 FAN PROT HEATER HEATER -100V
TO DM BOARD DM-11
E-2 +400V NC +100V +100V NC +15.5V GND GND -15.5V GND INT OSC
TO PA BOARD PA-3
Q141 2SC2785 PULSE DET
Q139 2SA1175 Q137 2SC2688 Q138 2SC2785 1B CONT
D147 RD8.2ES-B2 D148 RD15ES-B2 H OUT PROT
Q149 2SC2785 Q150 2SK755 H OUT PROT
D119 ISS119 PROT
Q145 2SK755 H DRIVE
Q122 DTC144ES FAN PORT SW
FAN 8 E-7 GND SENS -B
FAN 5 E-11 GND SENS -B
Q119 DTC114ES FAN PORT SW
D108 ISS119 PROT
D122 ISS119 PROT
Q128 DTC114ES FAN PORT SW
D129 ISS119 PROT
E-12 -B SENS GND
TO KB BOARD KB-2
100V
12V
15.5V
-15.5V

Q•No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	HDTV
1	G	2.5	2.5	2.5	2.5	2.5	3
	D	–	–	–	–	–	–
	S	0.5	0.5	0.5	0.5	0.5	0.9
2	G	2.5	2.5	2.5	2.5	2.5	3
	D	–	–	–	–	–	–
	S	0.5	0.5	0.5	0.5	0.5	0.9
3	G	−2.5	−2.5	−2.5	−2.5	−2.5	2.1
	D	–	–	–	–	–	–
	S	−0.4	−0.4	−0.4	−0.4	−0.4	0.2
4	G	−2.5	−2.5	−2.5	−2.5	−2.5	2.1
	D	–	–	–	–	–	–
	S	−0.4	−0.4	−0.4	−0.4	−0.4	0.2
5	G	–	–	–	–	–	–
	D	–	–	–	–	–	–
	S	−2.2	−2.2	−2.2	−2.2	−2.2	−1.8
6	G	−4.7	−4.7	−4.7	−4.7	−4.7	−4.2
	D	–	–	–	–	–	–
	S	−2.2	−2.2	−2.2	−2.2	−2.2	−1.8
7	B	−18.2	−18.2	−18.2	−18.2	−18.2	−51.9
	C	−2.3	−2.3	−2.3	−2.3	−2.3	−12
	E	−17.6	−17.6	−17.6	−17.6	−17.6	−51.2
21	B	−0.4	−0.4	−0.4	−0.4	−0.4	0
	C	–	–	–	–	–	–
	E	–	–	–	–	–	–
22	B	–	–	–	–	–	–
	C	44.6	44.6	44.6	44.6	44.6	44.8
	E	–	–	–	–	–	–
101	G	−0.4	−0.4	−0.4	−0.4	−0.4	−1.4
	D	0.3	0.3	0.3	0.3	0.3	0.8
	S	–	–	–	–	–	–
103	B	2	2	2	2	2	2.2
	C	–	–	–	–	–	–
	E	4.9	4.9	4.9	4.9	4.9	2.9
104	B	2	2	2	2	2	2.2
	C	–	–	–	–	–	–
	E	4.9	4.9	4.9	4.9	4.9	2.9
106	B	−2.0	−2.0	−2.0	−2.0	−2.0	−53.5
	C	−20	−20	−20	−20	−20	−53.4
	E	−20	−20	−20	−20	−20	−53.5
107	B	2.8	2.8	2.8	2.8	2.8	4.3
	C	–	–	–	–	–	–
	E	2.6	2.6	2.6	2.6	2.6	4.1
108	B	2.3	2.3	2.3	2.3	2.3	3.8
	C	–	–	–	–	–	–
	E	2.6	2.6	2.6	2.6	2.6	4.1
109	G	−0.5	−0.5	−0.5	−0.5	−0.5	1.2
	D	2.3	2.3	2.3	2.3	2.3	3.8
	S	–	–	–	–	–	–
110	G	0	0	0	0	0	−0.2
	D	–	–	–	–	–	–
	S	–	–	–	–	–	–
111	G	−21.3	−21.3	−21.3	−21.3	−21.3	−54.6
	D	–	–	–	–	–	–
	S	–	–	–	–	–	–
112	G	−21.3	−21.3	−21.3	−21.3	−21.3	−54.6
	D	−18.9	−18.9	−18.9	−18.9	−18.9	−53.5
	S	−20.1	−20.1	−20.1	−20.1	−20.1	−52.1
113	B	–	–	–	–	–	–
	C	10.1	10.1	10.1	10.1	10.1	13.5
	E	–	–	–	–	–	–
116	B	0.4	0.4	0.4	0.4	0.4	0.9
	C	–	–	–	–	–	–
	E	0.5	0.5	0.5	0.5	0.5	1.2
117	B	0.4	0.4	0.4	0.4	0.4	0.9
	C	–	–	–	–	–	–
	E	0.5	0.5	0.5	0.5	0.5	1.2
118	G	0.5	0.5	0.5	0.5	0.5	0
	D	0.4	0.4	0.4	0.4	0.4	0.9
	S	–	–	–	–	–	–
127	B	–	–	–	–	–	–
	C	–	–	–	–	–	–
	E	4.8	4.8	4.8	4.8	4.8	5
130	B	5.1	5.1	5.1	5.1	5.1	5.8
	C	–	–	–	–	–	–
	E	5.2	5.2	5.2	5.2	5.2	5.8
131	B	5.1	5.1	5.1	5.1	5.1	5.8
	C	5.2	5.2	5.2	5.2	5.2	5.8
	E	–	–	–	–	–	–
132	B	11.4	11.4	11.4	11.4	11.4	10.9
	C	–	–	–	–	–	–
	E	11.9	11.9	11.9	11.9	11.9	11.4

Q•No.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	HDTV
137	B	6.1	6.1	6.1	6.1	6.1	4.9
	C	74	74	74	74	74	91.4
	E	5.6	5.6	5.6	5.6	5.6	4.4
139	B	–	–	–	–	–	–
	C	6.1	6.1	6.1	6.1	6.1	5
	E	12.2	12.2	12.2	12.2	12.2	12.4
140	B	–	–	–	–	–	–
	C	–	–	–	–	–	–
	E	1.6	1.6	1.6	1.6	1.6	2.4
141	B	–	–	–	–	–	–
	C	–	–	–	–	–	–
	E	1.6	1.6	1.6	1.6	1.6	2.4
143	B	86.8	86.8	86.8	86.8	86.8	95.3
	C	–	–	–	–	–	–
	E	86.2	86.2	86.2	86.2	86.2	94.8
144	B	86.2	86.2	86.2	86.2	86.2	94.8
	C	–	–	–	–	–	–
	E	69.4	69.4	69.4	69.4	69.4	94.1
145	G	4.0	4.0	4.0	4.0	4.0	4.5
	D	39.8	39.8	39.8	39.8	39.8	47.7
	S	–	–	–	–	–	–
146	B	39.8	39.8	39.8	39.8	39.8	47.7
	C	69.4	69.4	69.4	69.4	69.4	94.1
	E	39.8	39.8	39.8	39.8	39.8	47.8
147	B	39.8	39.8	39.8	39.8	39.8	47.8
	C	69.4	69.4	69.4	69.4	69.4	94.1
	E	39.8	39.8	39.8	39.8	39.8	47.8
148	B	48.1	48.1	48.1	48.1	48.1	47.3
	C	–	–	–	–	–	–
	E	47.4	47.4	47.4	47.4	47.4	47.1
150	G	–	–	–	–	–	–
	D	86.8	86.8	86.8	86.8	86.8	95.3
	S	–	–	–	–	–	–

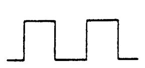
IC•No.	PIN•No.	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	HDTV
1	①	2.5	2.5	2.5	2.5	2.5	3.0
	⑤	0.3	0.3	0.3	0.3	0.3	0.5
	⑥	0.3	0.3	0.3	0.3	0.3	0.5
2	①	−2.5	−2.5	−2.5	−2.5	−2.5	2.1
	②	0	0	0	0	0	0.3
	③	0	0	0	0	0	0.3
	⑤	−1	−1	−1	−1	−1	0.1
	⑥	−1	−1	−1	−1	−1	0.1
	⑦	−1	−1	−1	−1	−1	0.3
3	①	−4.7	−4.7	−4.7	−4.7	−4.7	−4.2
101	②	11.2	11.2	11.2	11.2	11.2	10.1
	④	5.1	5.1	5.1	5.1	5.1	5.8
	⑦	11.4	11.4	11.4	11.4	11.4	10.4
	⑪	0.5	0.5	0.5	0.5	0.5	1.2
	⑭	3.2	3.2	3.2	3.2	3.2	1.7
102	⑤	0.3	0.3	0.3	0.3	0.3	0.8
	⑥	0.3	0.3	0.3	0.3	0.3	0.9
	⑦	0.3	0.3	0.3	0.3	0.3	0.9
103	⑦	1.2	1.2	1.2	1.2	1.2	5
104	①	0.7	0.7	0.7	0.7	0.7	1.7
	②	0.3	0.3	0.3	0.3	0.3	0.9
	③	0.3	0.3	0.3	0.3	0.3	0.9
	⑦	−3.2	−3.2	−3.2	−3.2	−3.2	3.3
105	①	4.2	4.2	4.2	4.2	4.2	5.3
106	⑦	0	0	0	0	0	−3.8
107	⑨	−0.3	−0.3	−0.3	−0.3	−0.3	−0.9
	⑩	−1.7	−1.7	−1.7	−1.7	−1.7	−2.3
111	②	2.1	2.1	2.1	2.1	2.1	2.3
	⑦	4.7	4.7	4.7	4.7	4.7	3.9
112	①	−21.2	−21.2	−21.2	−21.2	−21.2	−54.6
	②	−20	−20	−20	−20	−20	−53.3
	③	−20	−20	−20	−20	−20	−53.3
113	②	5.2	5.2	5.2	5.2	5.2	5.8
	⑥	6.1	6.1	6.1	6.1	6.1	4.9
114	②	4	4	4	4	4	5.4
	⑤	4	4	4	4	4	5.4

①



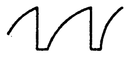
PAL	12.0Vp-p(H)
SECAM	12.0Vp-p(H)
NTSC3.58	12.0Vp-p(H)
NTSC4.43	12.0Vp-p(H)
S-VIDEO	12.0Vp-p(H)
HDTV	12.0Vp-p(H)

②



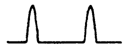
PAL	11.0Vp-p(H)
SECAM	11.0Vp-p(H)
NTSC3.58	11.0Vp-p(H)
NTSC4.43	11.0Vp-p(H)
S-VIDEO	11.0Vp-p(H)
HDTV	11.0Vp-p(H)

③



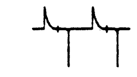
PAL	4.2Vp-p(H)
SECAM	4.2Vp-p(H)
NTSC3.58	4.2Vp-p(H)
NTSC4.43	4.2Vp-p(H)
S-VIDEO	4.2Vp-p(H)
HDTV	4.2Vp-p(H)

④



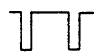
PAL	2.4 Vp-p(H)
SECAM	2.4 Vp-p(H)
NTSC3.58	2.4 Vp-p(H)
NTSC4.43	2.4 Vp-p(H)
S-VIDEO	2.4 Vp-p(H)
HDTV	2.4 Vp-p(H)

⑤



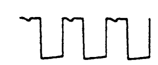
PAL	7.2Vp-p(H)
SECAM	7.2Vp-p(H)
NTSC3.58	7.2Vp-p(H)
NTSC4.43	7.2Vp-p(H)
S-VIDEO	7.2Vp-p(H)
HDTV	7.2Vp-p(H)

⑥



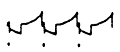
PAL	6.0Vp-p(H)
SECAM	6.0Vp-p(H)
NTSC3.58	6.0Vp-p(H)
NTSC4.43	6.0Vp-p(H)
S-VIDEO	6.0Vp-p(H)
HDTV	6.0Vp-p(H)

⑦



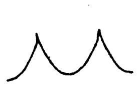
PAL	12.0Vp-p(H)
SECAM	12.0Vp-p(H)
NTSC3.58	12.0Vp-p(H)
NTSC4.43	12.0Vp-p(H)
S-VIDEO	12.0Vp-p(H)
HDTV	12.0Vp-p(H)

⑧



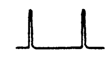
PAL	12.0 Vp-p(H)
SECAM	12.0 Vp-p(H)
NTSC3.58	12.0 Vp-p(H)
NTSC4.43	12.0 Vp-p(H)
S-VIDEO	12.0 Vp-p(H)
HDTV	12.0 Vp-p(H)

⑨



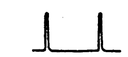
PAL	0.2Vp-p(H)
SECAM	0.2Vp-p(H)
NTSC3.58	0.2Vp-p(H)
NTSC4.43	0.2Vp-p(H)
S-VIDEO	0.2Vp-p(H)
HDTV	0.2Vp-p(H)

⑩



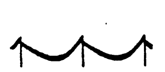
PAL	1200Vp-p(H)
SECAM	1200Vp-p(H)
NTSC3.58	1200Vp-p(H)
NTSC4.43	1200Vp-p(H)
S-VIDEO	1200Vp-p(H)

⑩



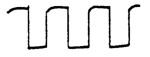
HDTV	1600Vp-p(H)

⑪



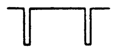
PAL	0.14Vp-p(V)
SECAM	0.14Vp-p(V)
NTSC3.58	0.14Vp-p(V)
NTSC4.43	0.14Vp-p(V)
S-VIDEO	0.14Vp-p(V)
HDTV	0.34Vp-p(V)

⑫



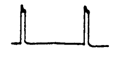
PAL	12.0Vp-p(H)
SECAM	12.0Vp-p(H)
NTSC3.58	12.0Vp-p(H)
NTSC4.43	12.0Vp-p(H)
S-VIDEO	12.0Vp-p(H)
HDTV	12.0Vp-p(H)

⑬



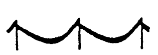
PAL	12.0 Vp-p(H)
SECAM	12.0 Vp-p(H)
NTSC3.58	12.0 Vp-p(H)
NTSC4.43	12.0 Vp-p(H)
S-VIDEO	12.0 Vp-p(H)
HDTV	12.0 Vp-p(H)

⑭



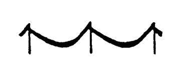
PAL	4.2 Vp-p(H)
SECAM	4.2 Vp-p(H)
NTSC3.58	4.2 Vp-p(H)
NTSC4.43	4.2 Vp-p(H)
S-VIDEO	4.2 Vp-p(H)
HDTV	4.2 Vp-p(H)

⑮



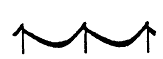
PAL	0.12 Vp-p(V)
SECAM	0.12 Vp-p(V)
NTSC3.58	0.12 Vp-p(V)
NTSC4.43	0.12 Vp-p(V)
S-VIDEO	0.12 Vp-p(V)
HDTV	0.12 Vp-p(V)

⑯



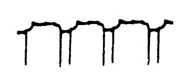
PAL	0.6 Vp-p(V)
SECAM	0.6 Vp-p(V)
NTSC3.58	0.6 Vp-p(V)
NTSC4.43	0.6 Vp-p(V)
S-VIDEO	0.6 Vp-p(V)

⑯



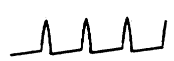
HDTV	1.6 Vp-p(V)

⑰



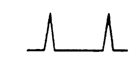
PAL	11.0Vp-p(H)
SECAM	11.0Vp-p(H)
NTSC3.58	11.0Vp-p(H)
NTSC4.43	11.0Vp-p(H)
S-VIDEO	11.0Vp-p(H)
HDTV	11.0Vp-p(H)

⑱



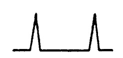
PAL	1400 Vp-p(H)
SECAM	1400 Vp-p(H)
NTSC3.58	1400 Vp-p(H)
NTSC4.43	1400 Vp-p(H)
S-VIDEO	1400 Vp-p(H)
HDTV	1400 Vp-p(H)

⑲



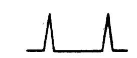
PAL	58 Vp-p(H)
SECAM	58 Vp-p(H)
NTSC3.58	58 Vp-p(H)
NTSC4.43	58 Vp-p(H)
S-VIDEO	58 Vp-p(H)

⑲



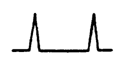
HDTV	80 Vp-p(H)

⑳



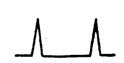
PAL	46Vp-p(H)
SECAM	46Vp-p(H)
NTSC3.58	46Vp-p(H)
NTSC4.43	46Vp-p(H)
S-VIDEO	46Vp-p(H)

⑳



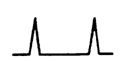
HDTV	60 Vp-p(H)

㉑



PAL	52 Vp-p(H)
SECAM	52 Vp-p(H)
NTSC3.58	52 Vp-p(H)
NTSC4.43	52 Vp-p(H)
S-VIDEO	52 Vp-p(H)

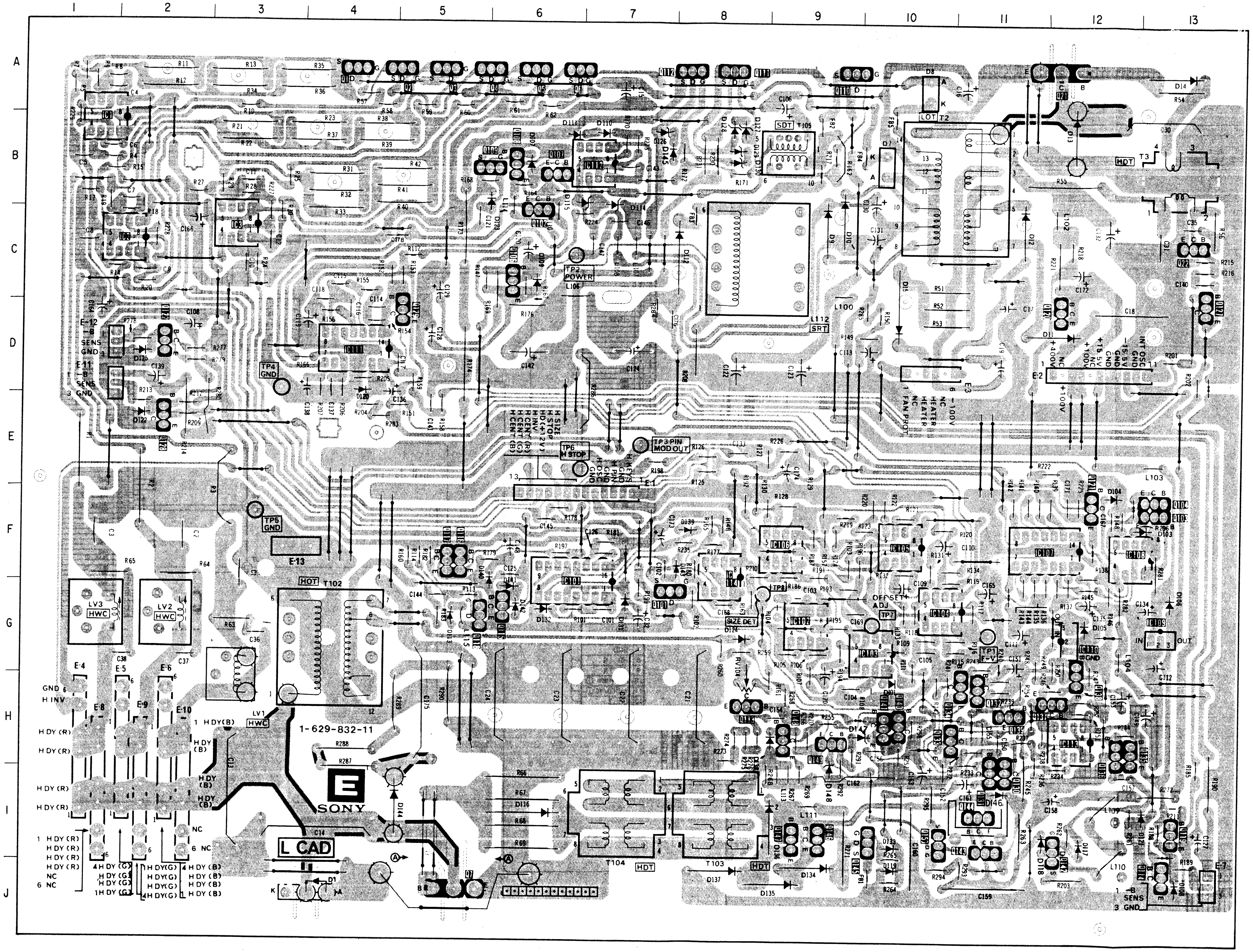
㉑



HDTV	68 Vp-p(H)

E [H. OUT]

– E BOARD –


1
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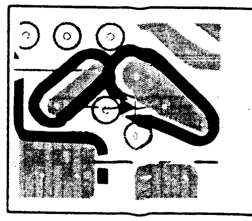
12
13
A
B
C
D
E
F
G
H
I
J
HOT
T102
HWC
LV1
LV2
LV3
1-629-832-11
E
SONY
L CAD
T104
T103
HDT
LOT
T2
SDT
T105
SRT
L112
TP2 POWER
TP3 PIN MOD OUT
TP4 GND
TP5 GND
TP6 H STOP
TP7
TP8
OFFSET ADJ
SIZE DET
E-13
E-1
E-2
E-3
E-4
E-5
E-6
E-7
E-8
E-9
E-10
E-11
E-12
GND
H INV
H DY (R)
H DY (G)
H DY (B)
NC
SENS
IN
OUT

E BOARD

IC	
IC1	B – 1
IC2	C – 2
IC3	C – 3
IC101	F – 6
IC102	G – 9
IC103	G – 10
IC104	G – 10
IC105	F – 10
IC106	F – 9
IC107	F – 12
IC108	F – 12
IC109	G – 13
IC110	G – 12
IC111	D – 4
IC112	B – 7
IC113	H – 12
IC114	F – 1

TRANSISTOR	
Q1	A – 4
Q2	A – 5
Q3	A – 5
Q4	A – 6
Q5	A – 6
Q6	A – 6
Q7	J – 5
Q21	A – 12
Q22	C – 13
Q101	G – 7
Q102	C – 6
Q103	F – 13
Q104	F – 13
Q106	C – 6
Q107	B – 6
Q108	B – 6
Q109	B – 6
Q110	A – 9
Q111	A – 8
Q112	A – 8
Q113	H – 8
Q115	G – 6
Q116	F – 5
Q117	F – 5
Q118	G – 5
Q120	D – 12
Q121	F – 12
Q122	D – 2
Q127	D – 13
Q128	E – 2
Q129	D – 5
Q130	I – 11
Q131	I – 11
Q132	H – 11
Q133	H – 11
Q134	H – 11
Q135	H – 12
Q136	H – 12
Q137	H – 12
Q138	G – 12
Q139	H – 11
Q140	H – 10
Q141	H – 10
Q142	I – 12
Q143	I – 11
Q144	I – 11
Q145	I – 10
Q146	I – 9
Q147	I – 9
Q148	H – 9
Q149	H – 9
Q150	I – 10

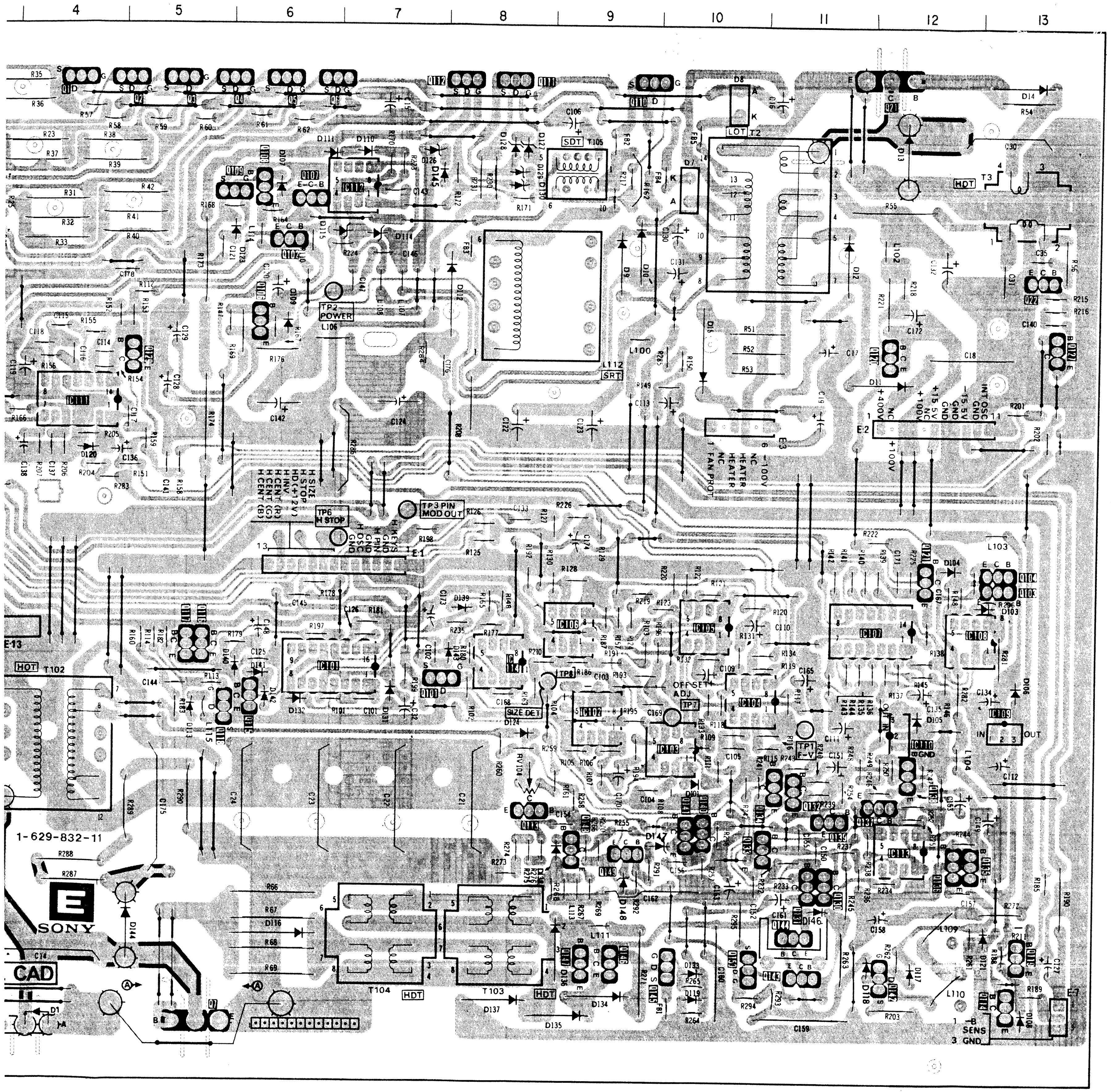
DIODE	
D1	J – 4
D7	B – 10
D8	A – 10
D9	C – 9
D10	C – 9
D11	D – 12
D12	C – 11
D13	B – 12
D14	A – 13
D15	D – 10
D103	F – 13
D104	F – 12
D105	G – 12
D106	G – 13
D107	B – 6
D108	J – 13
D109	C – 6
D110	B – 7
D111	B – 6



NC
Th
60
ins

E

[H. OUT]


4
5
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11
12
13
HOT
T102
E13
1-629-832-11
SONY
E
CAD
TP2 POWER
TP3 PIN MOD OUT
TP6 H STOP
TP7
TP1 F-V
TP8
SIZE DET
OFFSET ADJ
SDT T105
SRT
LOT T2
HDT T3
HDT
T104
T103
RV104
SENS
GND
E1
E2
E3
H SIZE
H STOP
HDV +12V
HINV
H CENT (R)
H CENT (G)
H CENT (B)
1 FAN PROT
NC
HEATER
HEATER
NC
-100V
+400V
NC
+15V
+5V
+100V
INT OSC
GND
+15.5V
GND
+100V
IN
OUT

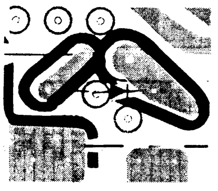
E BOARD

IC	
IC1	B – 1
IC2	C - 2
IC3	C - 3
IC101	F - 6
IC102	G - 9
IC103	G - 10
IC104	G - 10
IC105	F - 10
IC106	F - 9
IC107	F - 12
IC108	F - 12
IC109	G - 13
IC110	G - 12
IC111	D - 4
IC112	B - 7
IC113	H - 12
IC114	F - 1

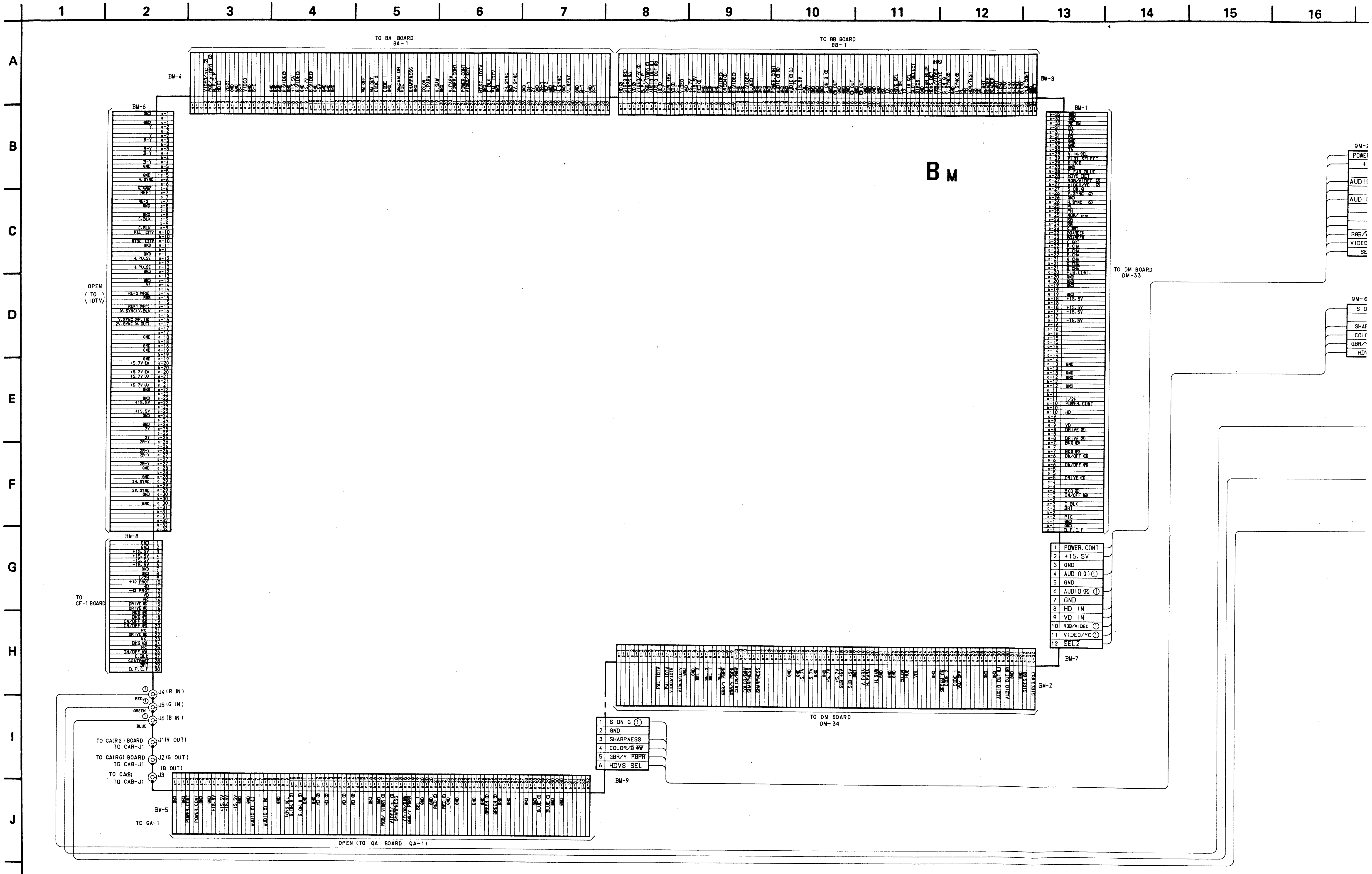
TRANSISTOR	
Q1	A – 4
Q2	A – 5
Q3	A – 5
Q4	A - 6
Q5	A - 6
Q6	A - 6
Q7	J – 5
Q21	A - 12
Q22	C - 13
Q101	G - 7
Q102	C - 6
Q103	F - 13
Q104	F - 13
Q106	C - 6
Q107	B - 6
Q108	B - 6
Q109	B - 6
Q110	A - 9
Q111	A - 8
Q112	A - 8
Q113	H - 8
Q115	G - 6
Q116	F - 5
Q117	F - 5
Q118	G - 5
Q120	D - 12
Q121	F - 12
Q122	D - 2
Q127	D - 13
Q128	E - 2
Q129	D - 5
Q130	I - 11
Q131	I - 11
Q132	H - 11
Q133	H - 11
Q134	H - 11
Q135	H - 12
Q136	H - 12
Q137	H - 12
Q138	G - 12
Q139	H - 11
Q140	H - 10
Q141	H - 10
Q142	I - 12
Q143	I - 11
Q144	I - 11
Q145	I - 10
Q146	I - 9
Q147	I - 9
Q148	H - 9
Q149	H - 9
Q150	I - 10

DIODE	
D1	J - 4
D7	B - 10
D8	A - 10
D9	C - 9
D10	C - 9
D11	D - 12
D12	C - 11
D13	B - 12
D14	A - 13
D15	D - 10
D103	F - 13
D104	F - 12
D105	G - 12
D106	G - 13
D107	B - 6
D108	J - 13
D109	C - 6
D110	B - 7
D111	B - 6
D112	C - 8
D113	G - 5
D114	B - 7
D115	B - 7
D116	I - 6
D117	I - 12
D118	I - 12
D119	J - 10
D120	D - 4
D121	I - 13
D122	E - 2
D123	B - 6
D124	G - 8
D125	D - 2
D126	B - 7
D127	B - 8
D128	B - 8
D129	B - 8
D130	B - 8
D131	G - 7
D132	G - 6
D133	I - 10
D134	J - 9
D135	J - 9
D136	I - 9
D137	J - 8
D138	H - 9
D139	F - 8
D140	G - 6
D141	G - 6
D142	G - 6
D143	F - 8
D144	I - 5
D145	B - 7
D146	I - 11
D147	H - 10
D148	I - 9

ADJUSTING ELEMENT	
RV104	G - 8



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.


1
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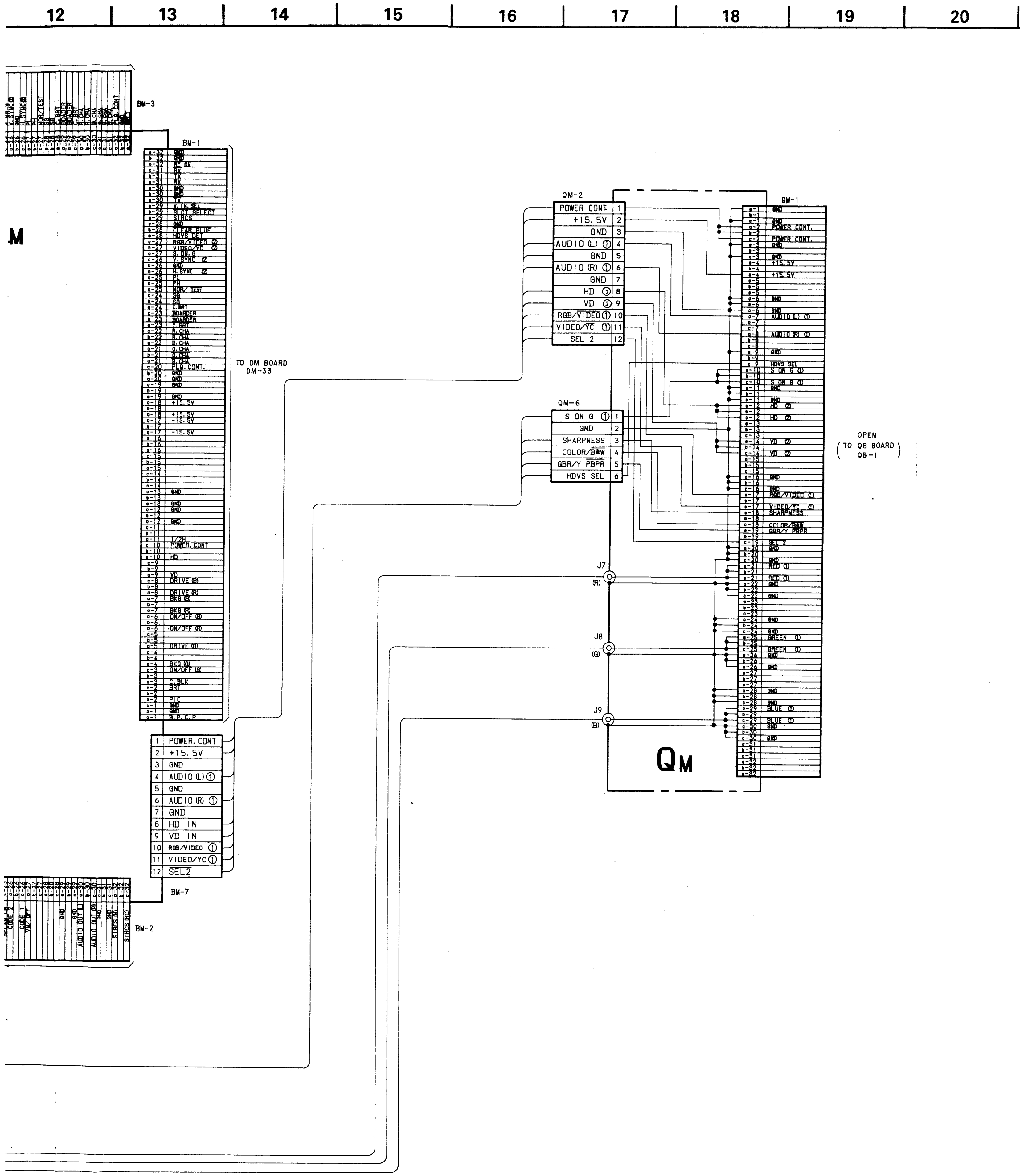
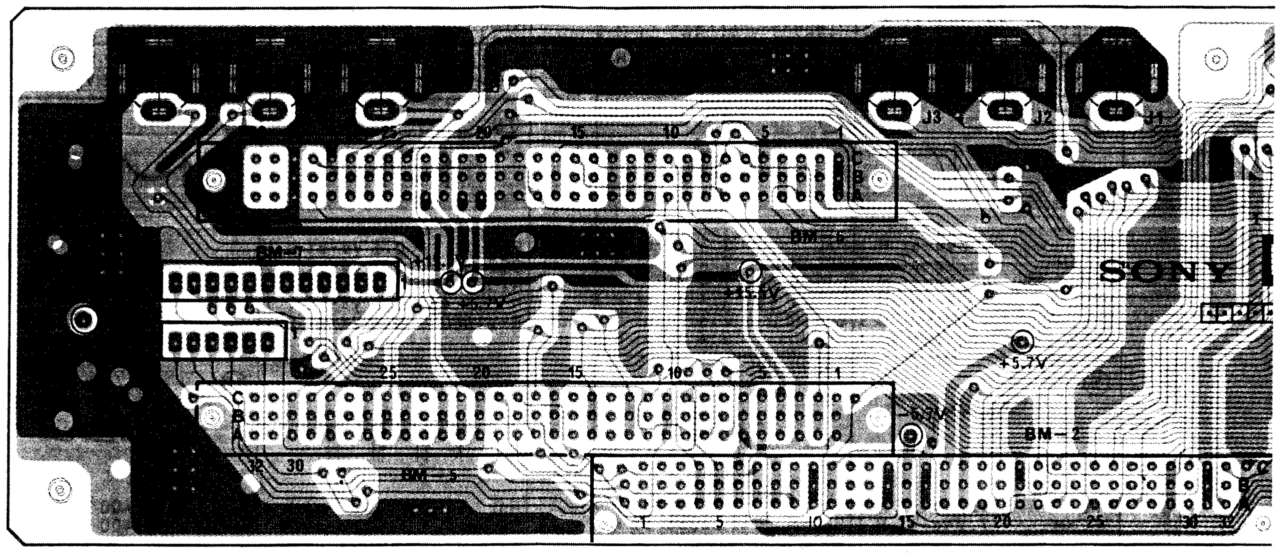
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
B M
TO BA BOARD
BA-1
TO BB BOARD
BB-1
BM-4
BM-3
BM-6
BM-1
BM-8
BM-7
BM-2
BM-9
BM-5
OPEN
(TO IDTV)
TO CF-1 BOARD
TO DM BOARD
DM-33
TO DM BOARD
DM-34
TO QA-1
OPEN (TO QA BOARD QA-1)
1 POWER.CONT
2 +15.5V
3 GND
4 AUDIO (L) ①
5 GND
6 AUDIO (R) ①
7 GND
8 HD IN
9 VD IN
10 RGB/VIDEO ①
11 VIDEO/YC ①
12 SEL2
1 S ON G ①
2 GND
3 SHARPNESS
4 COLOR/B&W
5 GBR/Y PBPR
6 HDVS SEL
J4 (R IN)
J5 (G IN)
J6 (B IN)
RED
GREEN
BLUE
TO CA(RG) BOARD
TO CAR-J1
J1 (R OUT)
TO CA(RG) BOARD
TO CAG-J1
J2 (G OUT)
(B OUT)
TO CA(B)
TO CAB-J1
J3
QM-2
POWER
AUDI
AUDI
RGB/V
VIDEO
SE
QM-6
S O
SHAR
COLO
GBR/
HDV

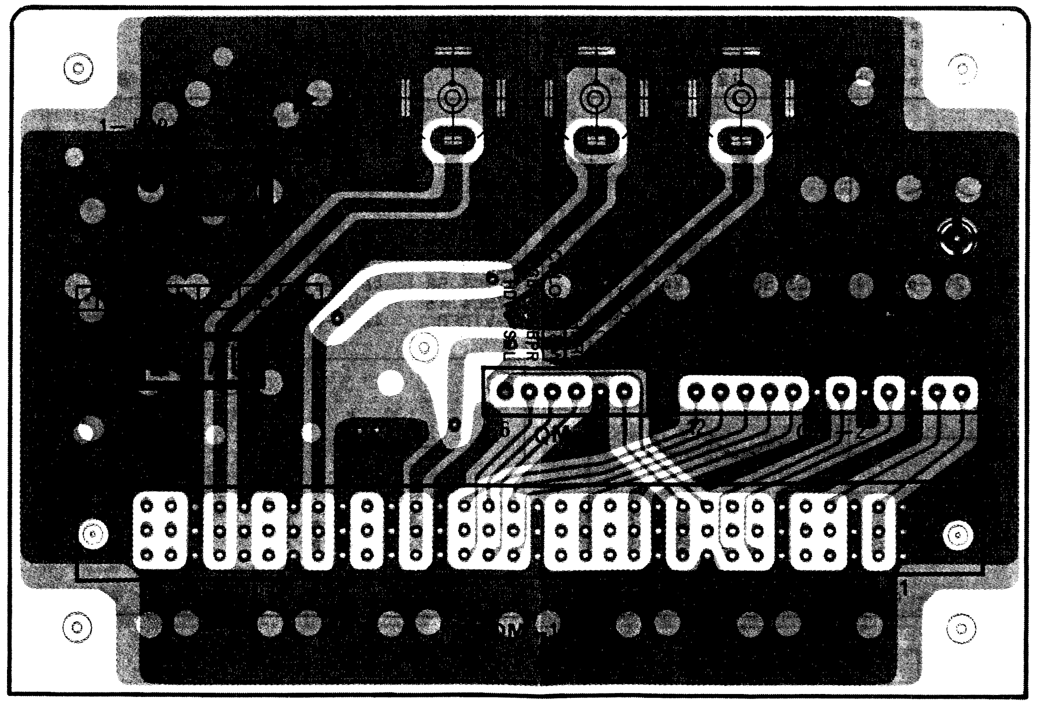

12
13
14
15
16
17
18
19
20
BM-3
BM-1
TO DM BOARD
DM-33
QM-2
POWER CONT
+15.5V
GND
AUDIO (L) ①
GND
AUDIO (R) ①
GND
HD ②
VD ②
RGB/VIDEO ①
VIDEO/YC ①
SEL 2
QM-6
S ON G ①
GND
SHARPNESS
COLOR/B&W
GBR/Y PBPR
HDVS SEL
QM-1
OPEN
(TO QB BOARD QB-1)
J7
(R)
J8
(G)
J9
(B)
QM
1 POWER.CONT
2 +15.5V
3 GND
4 AUDIO (L) ①
5 GND
6 AUDIO (R) ①
7 GND
8 HD IN
9 VD IN
10 RGB/VIDEO ①
11 VIDEO/YC ①
12 SEL2
BM-7
BM-2
M

BM [MOTHER BOARD] QM [MOTHER BOARD]

- BM BOARD -

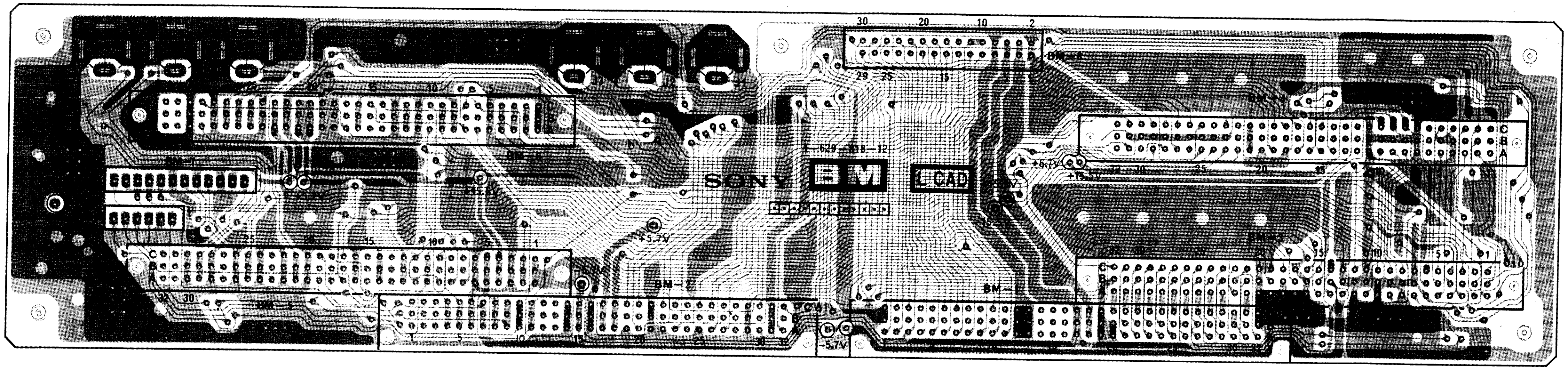

SONY
+5.7V
BM-2

- QM BOARD -

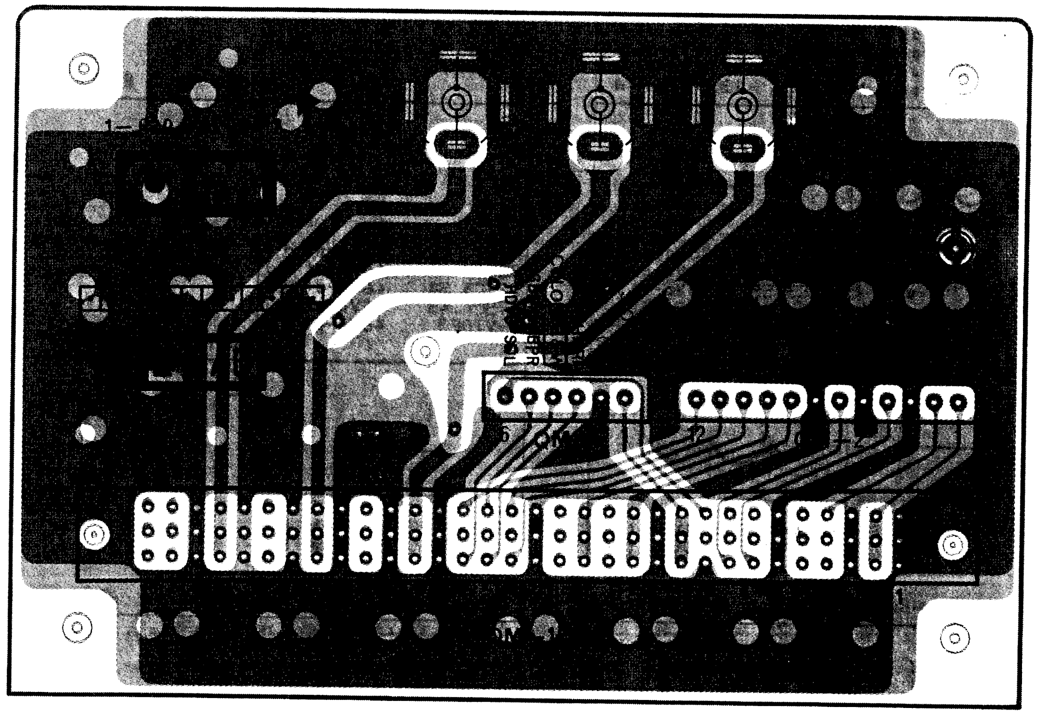


BM [MOTHER BOARD] **QM** [MOTHER BOARD]

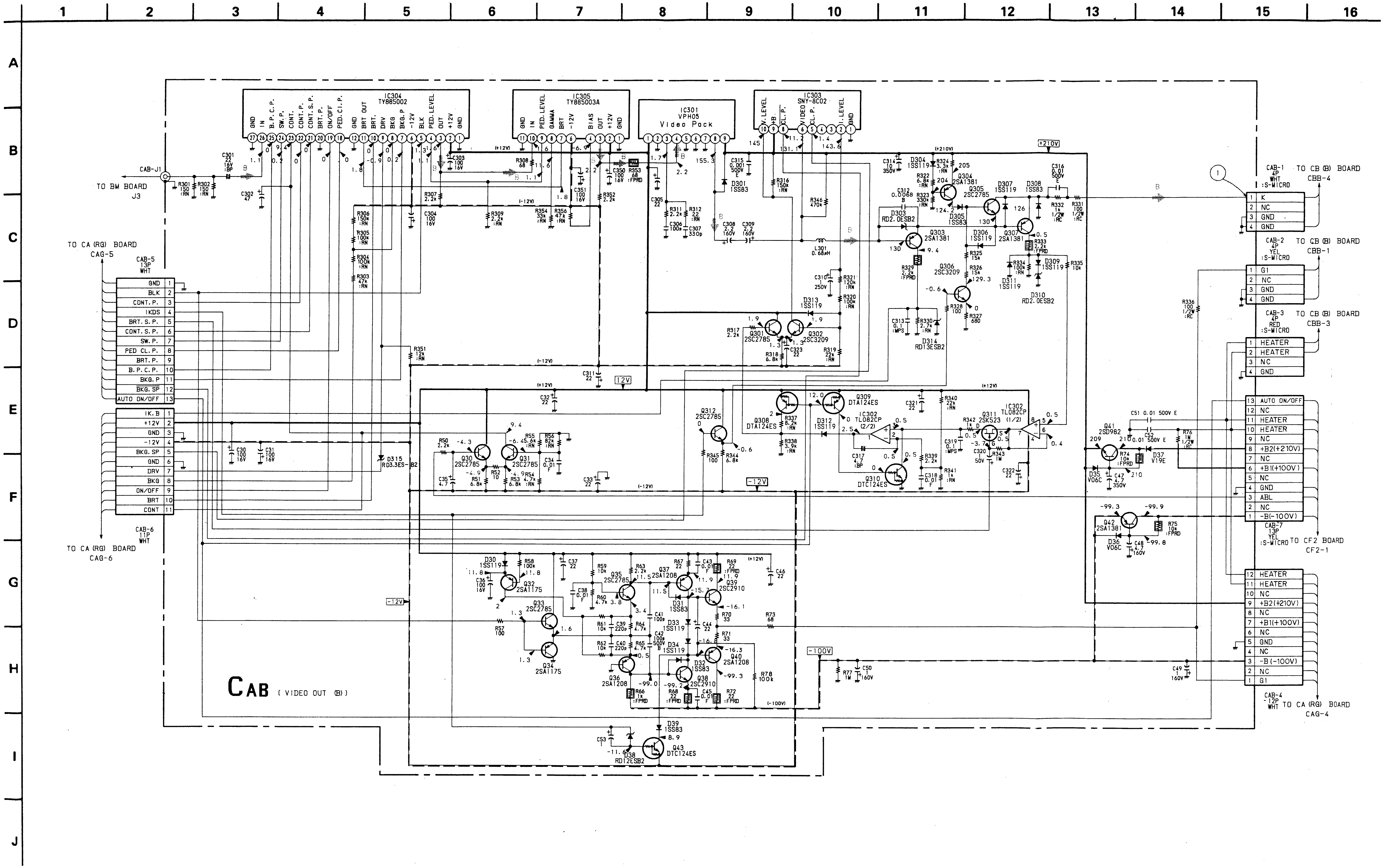
- BM BOARD -


SONY
BM
LCAD
+5.7V
-5.7V
+15.5V
+15.5V
BM-1
BM-2
BM-3
BM-4
BM-5
BM-6
BM-7
C
B
A
30
20
10
2
29
25
15
1
5

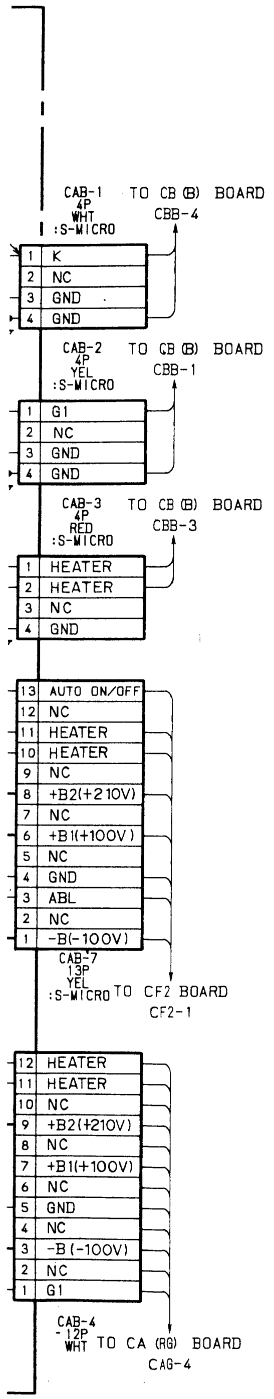
- QM BOARD -



- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

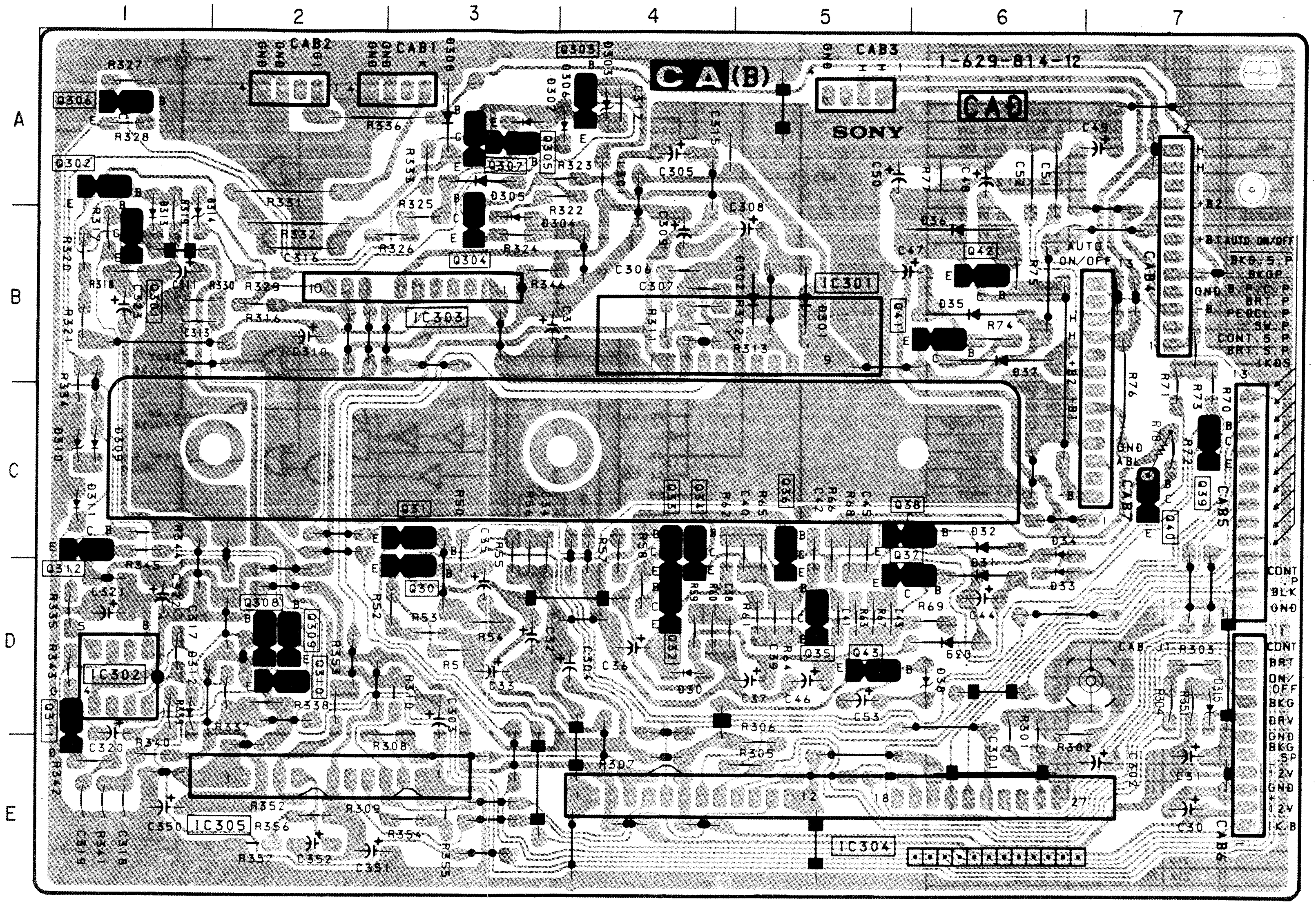

CAB (VIDEO OUT (B))
IC304 TY885002
IC305 TY885003A
IC301 VPH05 Video Pack
IC303 SNY-8C02
IC302 TL082CP
CAB-J1
TO BM BOARD J3
TO CA (RG) BOARD CAG-5
CAB-5 13P WHT
TO CA (RG) BOARD CAG-6
CAB-6 11P WHT
CAB-1 4P WHT :S-MICRO TO CB (B) BOARD CBB-4
CAB-2 4P YEL :S-MICRO TO CB (B) BOARD CBB-1
CAB-3 4P RED :S-MICRO TO CB (B) BOARD CBB-3
CAB-7 13P YEL :S-MICRO TO CF2 BOARD CF2-1
CAB-4 12P WHT TO CA (RG) BOARD CAG-4
+210V
12V
-12V
-100V

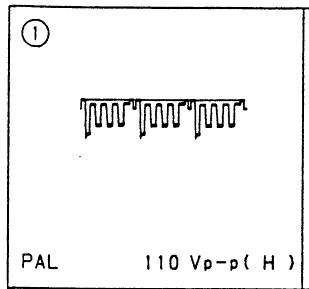
CA (B) [VIDEO OUT (B)]


CAB-1 4P WHT :S-MICRO
TO CB (B) BOARD CBB-4
1 K
2 NC
3 GND
4 GND
CAB-2 4P YEL :S-MICRO
TO CB (B) BOARD CBB-1
1 G1
2 NC
3 GND
4 GND
CAB-3 4P RED :S-MICRO
TO CB (B) BOARD CBB-3
1 HEATER
2 HEATER
3 NC
4 GND
13 AUTO ON/OFF
12 NC
11 HEATER
10 HEATER
9 NC
8 +B2(+210V)
7 NC
6 +B1(+100V)
5 NC
4 GND
3 ABL
2 NC
1 -B(-100V)
CAB-7 13P YEL :S-MICRO
TO CF2 BOARD CF2-1
12 HEATER
11 HEATER
10 NC
9 +B2(+210V)
8 NC
7 +B1(+100V)
6 NC
5 GND
4 NC
3 -B (-100V)
2 NC
1 G1
CAB-4 12P WHT
TO CA (RG) BOARD CAG-4

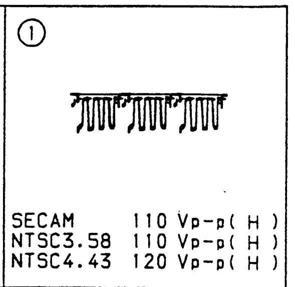
CA (B)	IC301	VPH05	B VIDEO OUT
	302	TL082CP	B AUTO BKG
	303	SNY-8C02	B CLAMP
	304	TY885002	B SIGNAL PROCESS
	305	TY885003	B γ CORR.
	Q30	2SC2785	Σ ABL
	31	2SC2785	Σ ABL
	32	2SA1175	OFF SPOT PROT
	33	2SC2785	BLK
	34	2SA1175	BLK
	35	2SC2785	BLK
	36	2SA1208	BLK
	37	2SA1208	BLK
	38	2SC2910	BLK
	39	2SC2910	BLK
	40	2SA1208	BLK
	41	2SD982	+ 210V RIPPLE FILTER
	42	2SA1381	− 100V RIPPLE FILTER
	43	DTC124ES	BRT PULSE GEN
	301	2SC2785	B CLAMP
	302	2S3209	B CLAMP
	303	2SA1381	B IK DET-1
	304	2SA1381	B CURRENT SOURCE
	305	2SC2785	B IK DET-2
	306	2SC3209	B IK DET-2
	307	2SA1381	B IK DET-2
	308	DTA124ES	B AUTO BKG SW
	309	DTA124ES	B AUTO BKG SW
	310	DTC124ES	B AUTO BKG SW
	311	2SK523	B AUTO BKG
	312	2SC2785	B IK DET-2
	D30	1SS119	OFF SPOT PROT
	31	1SS83	BLK
	32	1SS83	BLK
	33	1SS119	BLK
	34	1SS119	BLK
	35	V06C	+ 12V RIPPLE FILTER PROT
	36	V06C	− 100V RIPPLE FILTER PROT
	37	V19E	+ 210V RIPPLE FILTER PROT
	38	RD12ESB2	BRT PULSE GEN
	39	1SS83	BRT PULSE GEN
	301	1SS83	B VIDEO OUT PROT
	303	RD2.0ESB2	B IK DET-1 PROT
	304	1SS119	B THERM COMP
	305	1SS83	B IK DET-2 PROT
	306	1SS119	B IK DET-2 PROT
	307	1SS119	B IK DET-2 PROT
	308	1SS83	B VIDEO OUT PROT
	309	1SS119	B IK DET-2 PROT
	310	RD2.0ESB2	B IK DET-2 PROT
	311	1SS119	B IK DET-2 PROT
	312	1SS119	B AUTO BKG SW
	313	1SS119	B OFF SPOT PROT
	314	RD13ESB2	B IK DET-2 PROT
	315	RD3.3ESB2	B DRV

– CA (B) BOARD –

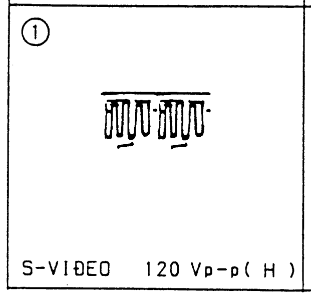

1
2
3
4
5
6
7
A
B
C
D
E
CA(B)
1-629-814-12
SONY
CAB1
CAB2
CAB3
CAB4
CAB5
CAB6
CAB7
IC301
IC302
IC303
IC304
IC305
AUTO ON/OFF
+B2
+B1
BKG.S.P
BKOP
B.PIC.P
BRT.P
PEOCL.P
SW.P
CONT.S.P
BRT.S.P
IKB
CONT.P
BLK
GND
BRT
ON/OFF
BKG
DRV
GND
BKG.SP
12V
GND
12V
IK.B



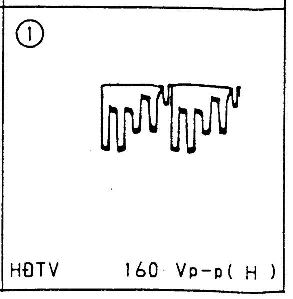
PAL 110 Vp-p(H)



SECAM 110 Vp-p(H)
NTSC3.58 110 Vp-p(H)
NTSC4.43 120 Vp-p(H)



S-VIDEO 120 Vp-p(H)



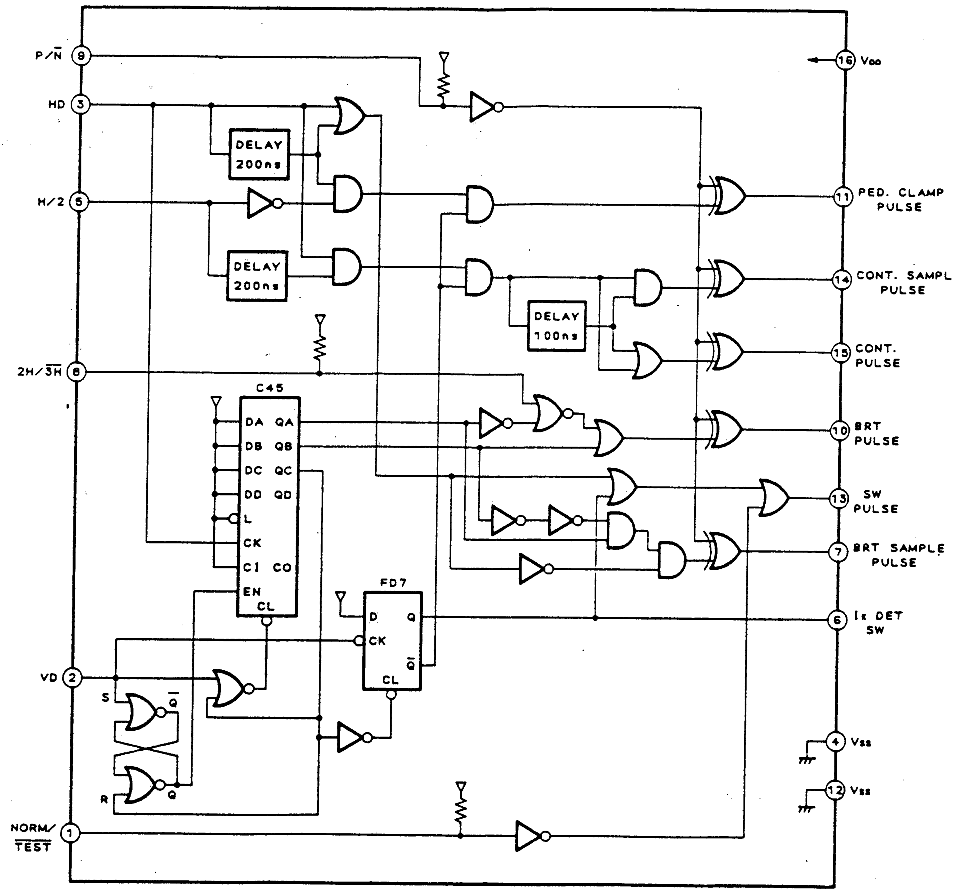
HDTV 160 Vp-p(H)

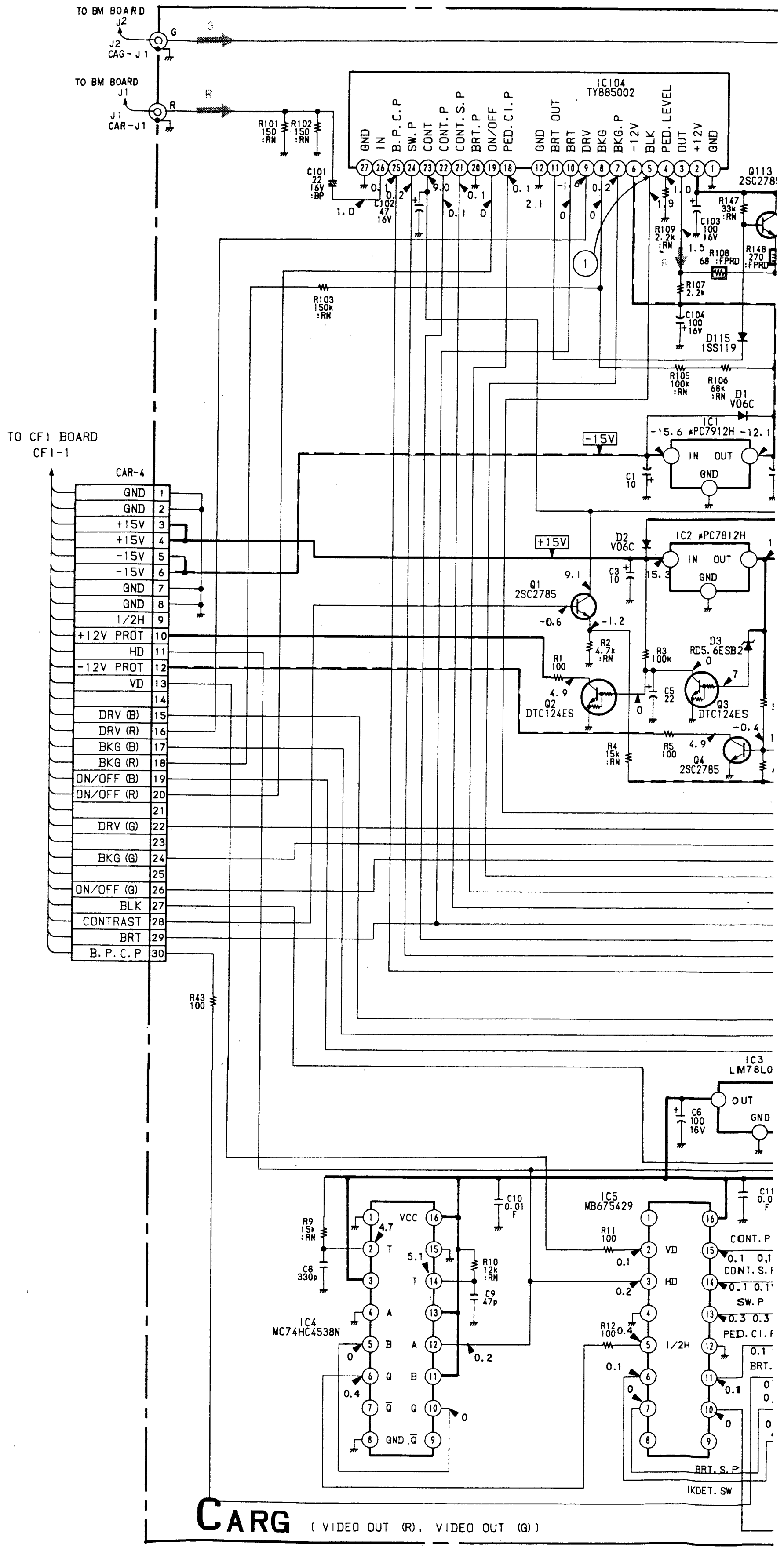
CA (B) BOARD

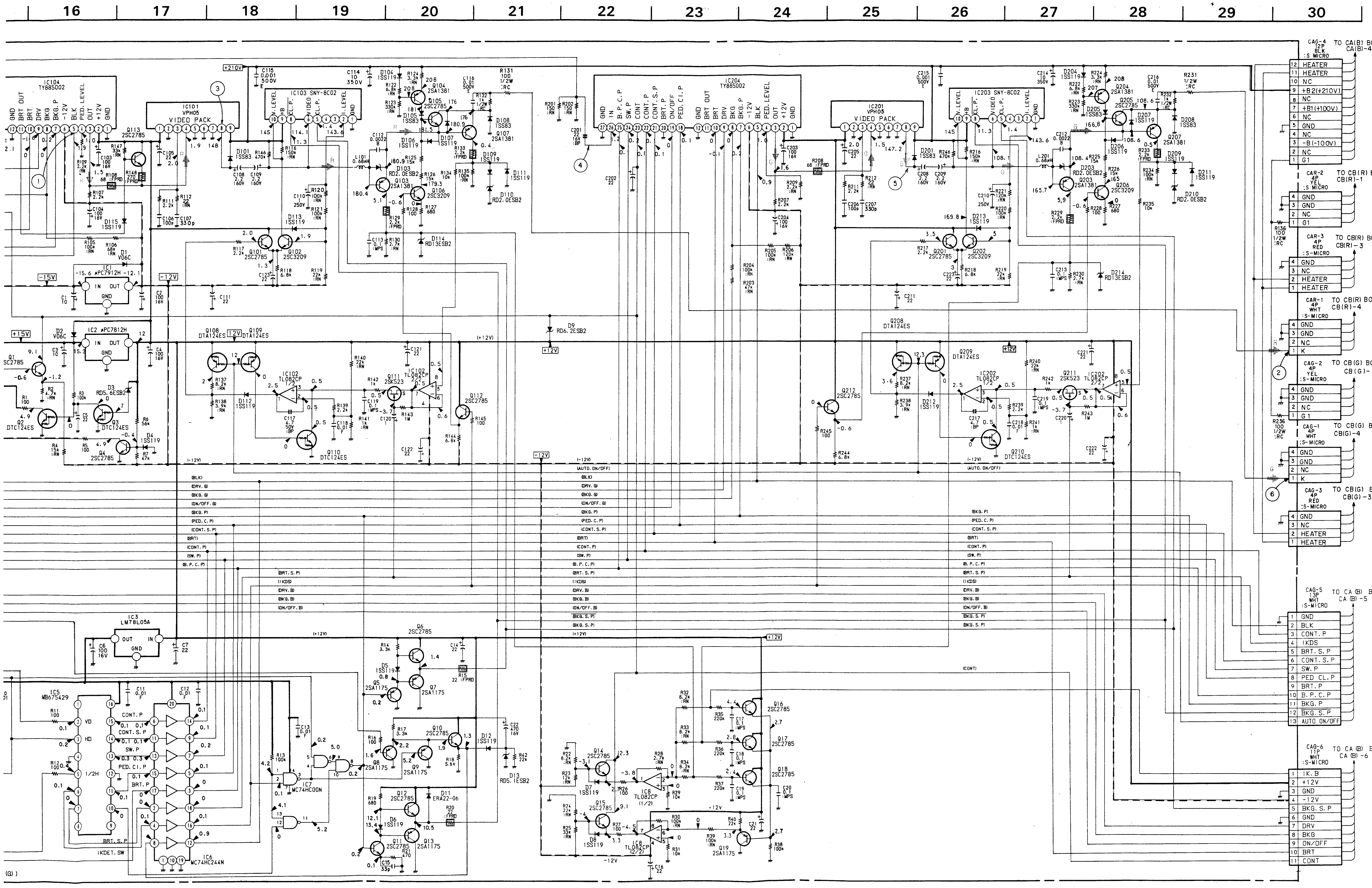
IC	
IC301	B - 5
IC302	D - 1
IC303	B - 3
IC304	E - 5
IC305	E - 2
TRANSISTOR	
Q30	D - 3
Q31	C - 3
Q32	D - 4
Q33	C - 4
Q34	C - 4
Q35	D - 5
Q36	C - 5
Q37	D - 5
Q38	C - 5
Q39	C - 7
Q40	C - 7
Q41	B - 6
Q42	B - 6
Q43	D - 5
Q301	B - 1
Q302	A - 1
Q303	A - 4
Q304	B - 3
Q305	A - 3
Q306	A - 1
Q307	A - 3
Q308	D - 2
Q309	D - 2
Q310	D - 2
Q311	D - 1
Q312	C - 1
DIODE	
D30	D - 4
D31	D - 6
D32	C - 6
D33	D - 6
D34	C - 6
D35	B - 6
D36	B - 6
D37	B - 6
D38	D - 6
D39	D - 6
D301	B - 5
D303	A - 4
D304	B - 3
D305	A - 3
D306	A - 4
D307	A - 3
D308	A - 3
D309	C - 1
D310	C - 1
D311	C - 1
D312	D - 1
D313	B - 1
D314	B - 1
D315	D - 7

CA (RG)	IC1	μ PC7912H	− 12V REG	203	2SA1381	G IK DET-1
	2	μ PC7812H	+ 12V REG	204	2SA1381	G CURRENT SOURCE
	3	μ PC78L05	+ 5V REG	205	2SC2785	G !K DET-2
	4	MC74HC4538N	PULSE GEN	206	2SC3209	G IK DET-2
	5	MB675429	PULSE GEN	207	2SA1381	G IK DET-2
	6	MC74HC244N	PULSE GEN	208	DTA124ES	G AUTO BKG SW
	7	MC74HC00N	PULSE GEN	209	DTA124ES	G AUTO BKG SW
	8	TL082CP	PEAK & S. T. ABL	210	DTC124ES	G AUTO BKG SW
	101	VPH05	R VIDEO OUT	211	2SK523	G AUTO BKG
	102	TL082CP	R AUTO BKG	212	2SC2785	G IK DET-2
	103	SNY-8C02	R CLAMP			
	104	TY885002	R SIGNAL PROCESS	D1	V06C	− 12V REG PROT
	201	VPH05	G VIDEO OUT	2	V06C	+ 12V REG PROT
	202	TL082CP	G AUTO BKG	3	RD5.6ESB2	+ 12V PROT
	203	SNY-8C02	G CLAMP	4	1SS119	− 12V PROT
	204	TY885002	G SIGNAL PROCESS	5	1SS119	BIAS
				6	1SS119	BIAS
	Q1	2SC2785	CONTRAST CONTROL	7	1SS119	PEAK ABL
	2	DTC124ES	+ 12V PROT	8	1SS119	S.T. ABL
	3	DTC124ES	+ 12V PROT	9	RD6.2ESB2	CONT PROT
	4	2SC2785	− 12V PROT	11	ERA22-06	PROT
	5	2SA1175	BKG S.P. GEN	12	1SS119	ON SPOT PROT
	6	2SC2785	BKG S.P. GEN	13	RD5.1ESB2	ON SPOT PROT
	7	2SA1175	BKG S.P. GEN	101	1SS83	R VIDEO OUT PROT
	8	2SA1175	BLK P. GEN	103	RD2.0ESB2	R IK DET-1 PROT
	9	2SA1175	BLK P. GEN	104	1SS119	R THERM COMP
	10	2SC2785	BLK P. GEN	105	1SS83	R IK DET-2 PROT
	11	2SC2785	BKG S.P. GEN	106	1SS119	R IK DET-2 PROT
	12	2SC2785	BKG S.P. GEN	107	1SS119	R IK DET-2 PROT
	13	2SA1175	BKG S.P. GEN	108	1SS83	R VIDEO OUT PROT
	14	2SC2785	PEAK ABL	109	1SS119	R IK DET-2 PROT
	15	2SC2785	S.T. ABL	110	RD2.0ESB2	R IK DET-2 PROT
	16	2SC2785	B.S.T. ABL	111	1SS119	R IK DET-2 PROT
	17	2SC2785	G.S.T. ABL	112	1SS119	R AUTO BKG SW
	18	2SC2785	R.S.T. ABL	113	1SS119	R OFF SPOT PROT
	19	2SA1175	S.T. ABL	114	RD13ESB2	R IK DET-1 PROT
	101	2SC2785	R CLAMP	115	1SS119	R γ CORR
	102	2SC3209	R CLAMP	201	1SS83	G VIDEO OUT PROT
	103	2SA1381	R IK DET-1	203	RD2.0ESB2	G IK DET-1 PROT
	104	2SA1381	R CURRENT SOURCE	204	1SS119	G THERM COMP
	105	2SC2785	R IK DET-2	205	1SS83	G IK DET-2 PROT
	106	2SC3209	R IK DET-2	206	1SS119	G IK DET-2 PROT
	107	2SA1381	R IK DET-2	207	1SS119	G IK DET-2 PROT
	108	DTA124ES	R AUTO BKG SW	208	1SS83	G VIDEO OUT PROT
	109	DTA124ES	R AUTO BKG SW	209	1SS119	G IK DET-2T PROT
	110	DTC124ES	R AUTO BKG SW	210	RD2.0ESB2	G IK DET-2T PROT
	111	2SK523	R AUTO BKG	211	1SS119	G IK DET-2T PROT
	112	2SC2785	R IK DET-2	212	1SS119	G AUTO BKG SW
	113	2SC2785	R γ CORR	213	1SS119	G OFF SPOT PROT
	201	2SC2785	G CLAMP	214	RD13ESB2	G IK DET-1 PROT
	202	2SC3209	G CLAMP			

IC5 MB675429


P/N̄
HD
H/2
2H/3H
VD
NORM/TEST
VDD
PED. CLAMP PULSE
CONT. SAMPLE PULSE
CONT. PULSE
BRT PULSE
SW PULSE
BRT SAMPLE PULSE
Ik DET SW
Vss
Vss
DELAY 200ns
DELAY 200ns
DELAY 100ns
C45
DA QA
DB QB
DC QC
DD QD
L
CK
CI CO
EN
CL
FD7
D Q
CK
Q̄
CL
S
R


TO BM BOARD J2
CAG-J1
TO BM BOARD J1
CAR-J1
IC104 TY885002
TO CF1 BOARD CF1-1
CAR-4
GND
GND
+15V
+15V
-15V
-15V
GND
GND
1/2H
+12V PROT
HD
-12V PROT
VD
DRV (B)
DRV (R)
BKG (B)
BKG (R)
ON/OFF (B)
ON/OFF (R)
DRV (G)
BKG (G)
ON/OFF (G)
BLK
CONTRAST
BRT
B.P.C.P
IC1 μPC7912H
IC2 μPC7812H
IC3 LM78L0
IC4 MC74HC4538N
IC5 MB675429
Q1 2SC2785
Q2 DTC124ES
Q3 DTC124ES
Q4 2SC2785
D1 V06C
D2 V06C
D3 RD5.6ESB2
D115 1SS119
Q113 2SC278
CARG (VIDEO OUT (R), VIDEO OUT (G))


16
17
18
19
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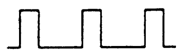
22
23
24
25
26
27
28
29
30
IC104 TY885002
IC101 VPH05 VIDEO PACK
IC103 SNY-8C02
IC204 TY885002
IC201 VPH05 VIDEO PACK
IC203 SNY-8C02
IC1 μPC7912H
IC2 μPC7812H
IC102 TL082CP
IC202 TL082CP
IC3 LM78L05A
IC5 MB675429
IC6 MC74HC244N
IC7 MC74HC00N
IC8 TL082CP
+210V
-15V
+15V
-12V
+12V
GND BRT DRV BKG BKG.P -12V BLK PED.LEVEL OUT +12V GND
GND IN B.P.C.P SW.P CONT CONT.P CONT.S.P BRT.P BRT.S.P ON/OFF PED.CI.P
CAG-4 12P BLK :S MICRO TO CA(B) BOARD CA(B)-4
12 HEATER
11 HEATER
10 NC
9 +B2(+210V)
8 NC
7 +B1(+100V)
6 NC
5 GND
4 NC
3 -B(-100V)
2 NC
1 G1
CAR-2 4P YEL :S MICRO TO CB(R) BOARD CB(R)-1
CAR-3 4P RED :S-MICRO TO CB(R) BOARD CB(R)-3
CAR-1 4P WHT :S-MICRO TO CB(R) BOARD CB(R)-4
CAG-2 4P YEL :S-MICRO TO CB(G) BOARD CB(G)-1
CAG-1 4P WHT :S-MICRO TO CB(G) BOARD CB(G)-4
CAG-3 4P RED :S-MICRO TO CB(G) BOARD CB(G)-3
CAG-5 13P WHT :S-MICRO TO CA (B) BOARD CA (B)-5
1 GND
2 BLK
3 CONT.P
4 IKDS
5 BRT.S.P
6 CONT.S.P
7 SW.P
8 PED CL.P
9 BRT.P
10 B.P.C.P
11 BKG.P
12 BKG.S.P
13 AUTO ON/OFF
CAG-6 11P WHT :S-MICRO TO CA (B) BOARD CA (B)-6
1 IK.B
2 +12V
3 GND
4 -12V
5 BKG.S.P
6 GND
7 DRV
8 BKG
9 ON/OFF
10 BRT
11 CONT
(AUTO.ON/OFF)
(BLK)
(DRV.G)
(BKG.G)
(ON/OFF.G)
(BKG.P)
(PED.C.P)
(CONT.S.P)
(BRT)
(CONT.P)
(SW.P)
(B.P.C.P)
(BRT.S.P)
(IKDS)
(DRV.B)
(BKG.B)
(ON/OFF.B)
(BKG.S.P)
(CONT)
IKDET.SW
(G)

CA (RG)

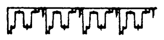
[VIDEO OUT (R)] [VIDEO OUT (G)]

①



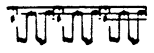
PAL 5.2Vp-p(H)
SECAM 5.2Vp-p(H)
NTSC3.58 5.2Vp-p(H)
NTSC4.43 5.2Vp-p(H)
S-VIDEO 5.2Vp-p(H)
HDTV 5.2Vp-p(H)

②



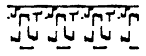
PAL 60 Vp-p(H)

②



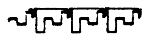
SECAM 54 Vp-p(H)
NTSC3.58 60 Vp-p(H)
NTSC4.43 60 Vp-p(H)

②



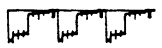
S-VIDEO 62 Vp-p(H)

②



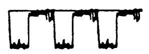
HDTV 120Vp-p(H)

③



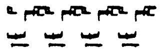
PAL 80 Vp-p(H)

③



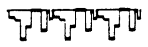
SECAM 70 Vp-p(H)
NTSC3.58 75 Vp-p(H)
NTSC4.43 78 Vp-p(H)

③



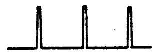
S-VIDEO 80 Vp-p(H)

③



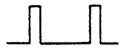
HDTV 160Vp-p(H)

④



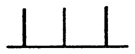
PAL 5.3Vp-p(H)
SECAM 5.3Vp-p(H)
NTSC3.58 5.3Vp-p(H)
NTSC4.43 5.3Vp-p(H)
S-VIDEO 5.3Vp-p(H)
HDTV 5.3Vp-p(H)

⑤



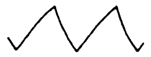
PAL 5.3Vp-p(H)
SECAM 5.3Vp-p(H)
NTSC3.58 5.3Vp-p(H)
NTSC4.43 5.3Vp-p(H)
S-VIDEO 5.3Vp-p(H)
HDTV 5.3Vp-p(H)

⑥



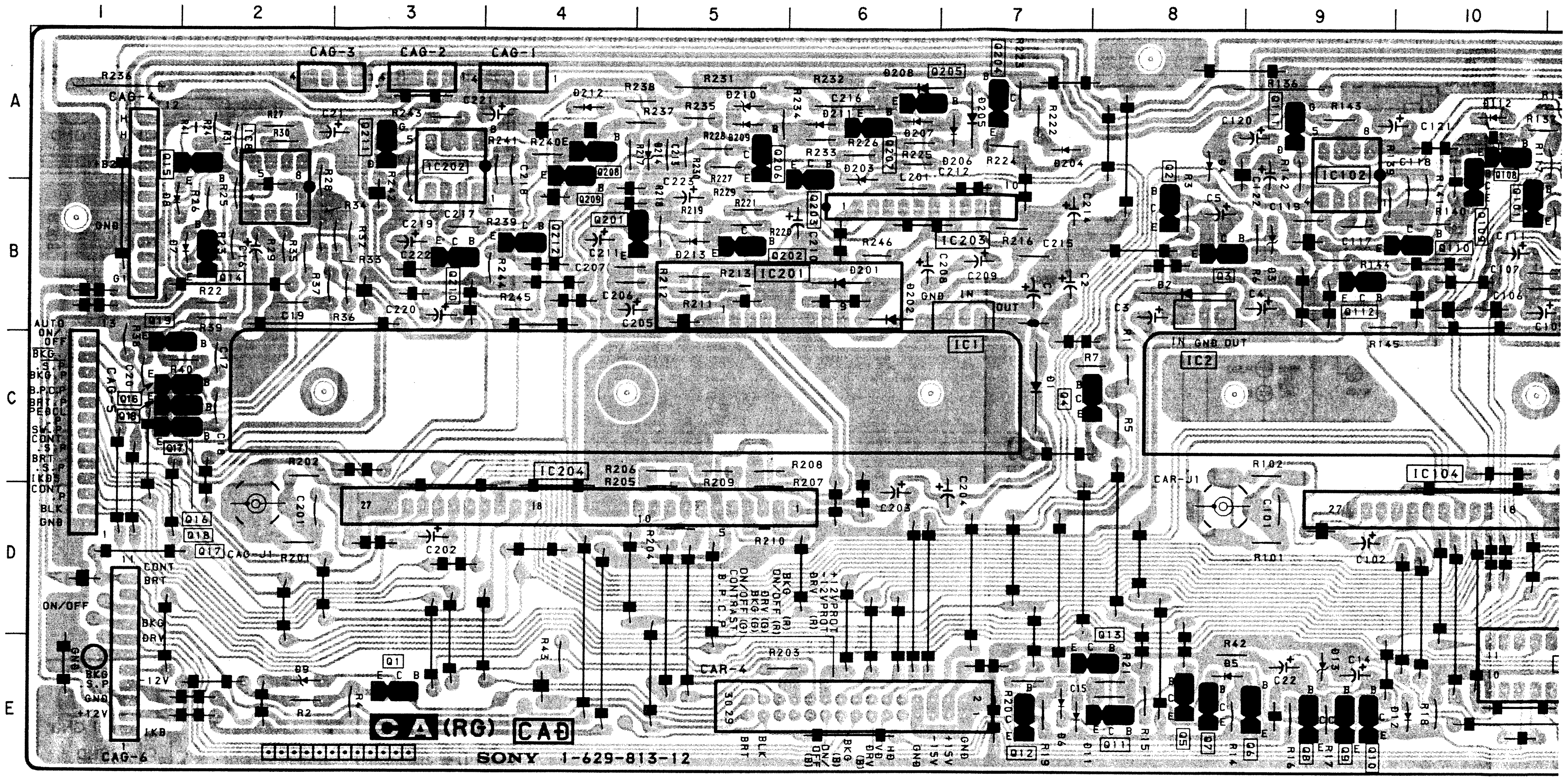
PAL 4 Vp-p(H)
SECAM 4 Vp-p(H)
NTSC3.58 4 Vp-p(H)
NTSC4.43 4 Vp-p(H)
S-VIDEO 4 Vp-p(H)
HDTV 4 Vp-p(H)

⑦

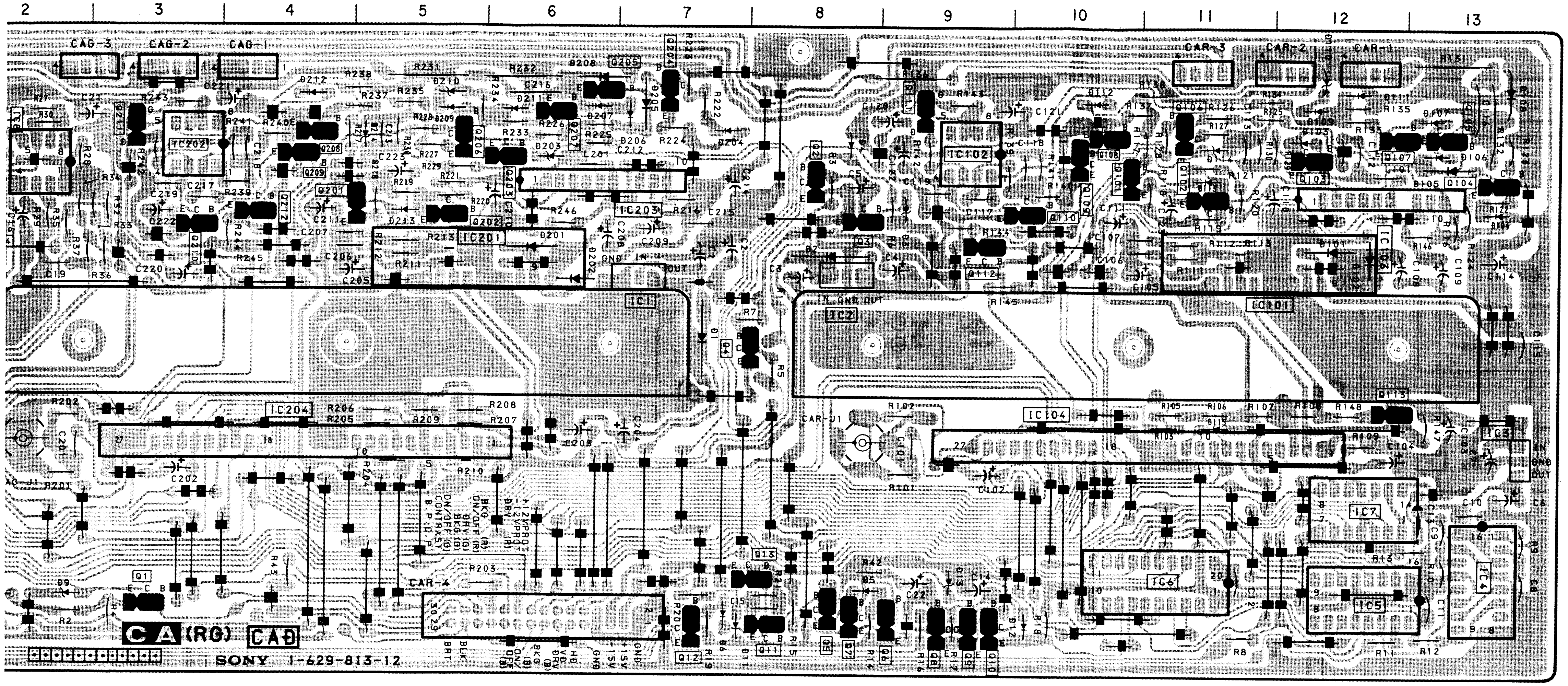


PAL 0.7Vp-p(H)
SECAM 0.7Vp-p(H)
NTSC3.58 0.7Vp-p(H)
NTSC4.43 0.7Vp-p(H)
S-VIDEO 0.7Vp-p(H)
HDTV 0.7Vp-p(H)

– CA (RG) BOARD –


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
CAG-3
CAG-2
CAG-1
CAG-4
CAG-5
CAG-6
CAG-J1
CAR-J1
CAR-4
IC1
IC2
IC101
IC102
IC104
IC201
IC202
IC203
IC204
AUTO ON/OFF
ON/OFF
CONT
BRT
BKG
DRV
GND
+12V
IN GND OUT
CA (RG) CAD
SONY 1-629-813-12

O OUT (G)]

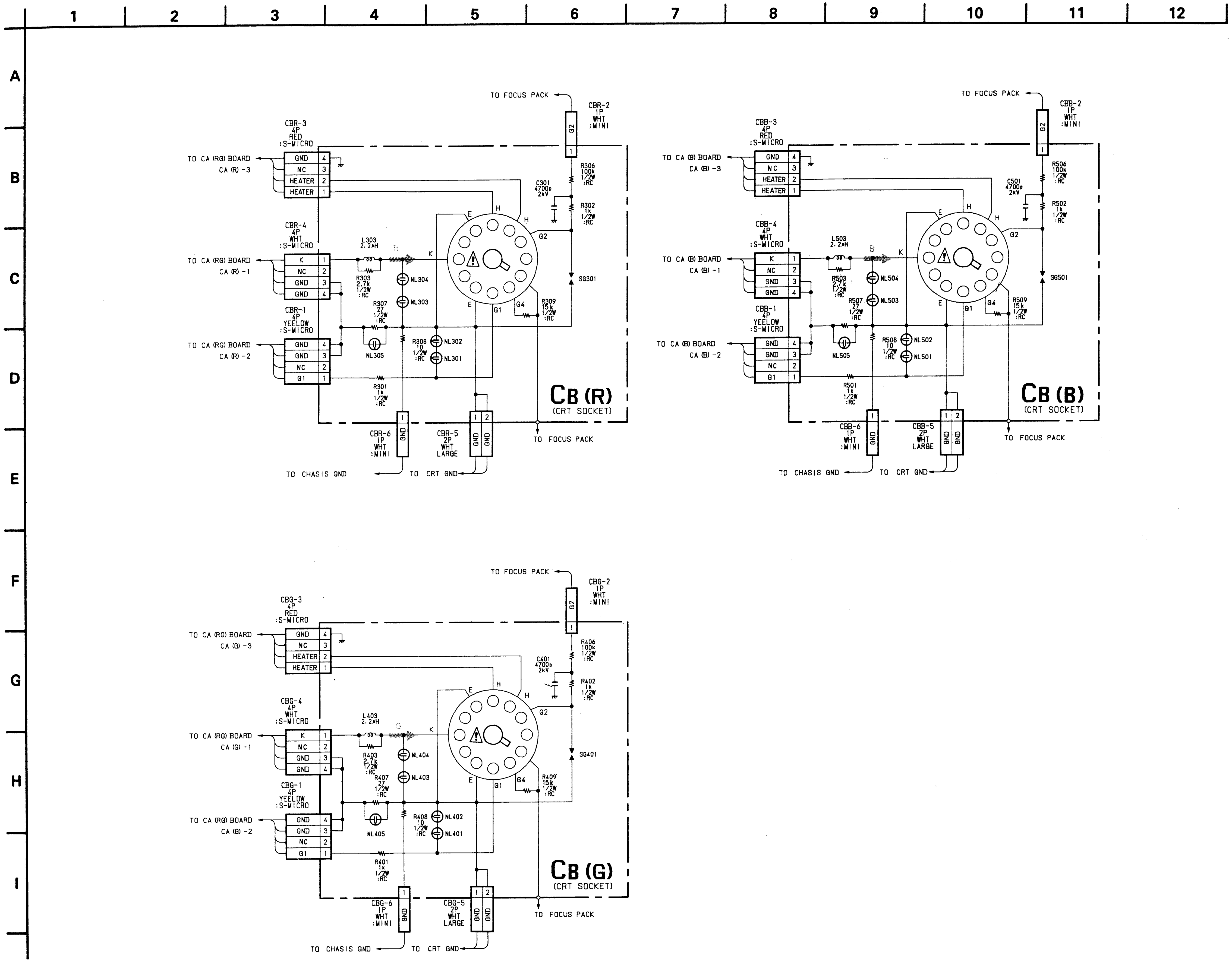

2
3
4
5
6
7
8
9
10
11
12
13
CAG-3
CAG-2
CAG-1
CAR-3
CAR-2
CAR-1
IC1
IC2
IC101
IC102
IC103
IC104
IC201
IC202
IC203
IC204
IC3
IC4
IC5
IC6
IC7
CAR-4
CAR-J1
IN GND OUT
CA (RG)
CAÐ
SONY 1-629-813-12

CA(RG)BOARD

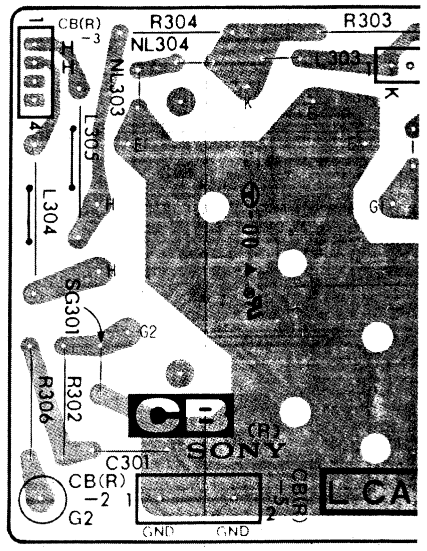
IC	
IC1	C - 7
IC2	B - 8
IC3	D - 13
IC4	E - 13
IC5	E - 12
IC6	E - 11
IC7	D - 12
IC8	A - 2
IC101	B - 11
IC102	A - 9
IC103	B - 12
IC104	D - 10
IC201	B - 5
IC202	A - 3
IC203	B - 7
IC204	D - 4

TRANSISTOR	
Q1	E - 3
Q2	B - 8
Q3	B - 8
Q4	C - 8
Q5	E - 8
Q6	E - 9
Q7	E - 8
Q8	E - 9
Q9	E - 9
Q10	E - 9
Q11	E - 8
Q12	E - 7
Q13	E - 8
Q14	B - 2
Q15	A - 2
Q16	C - 1
Q17	C - 1
Q18	C - 1
Q19	C - 1
Q101	B - 10
Q102	B - 11
Q103	A - 12
Q104	B - 13
Q105	A - 13
Q106	A - 11
Q107	A - 12
Q108	A - 10
Q109	B - 10
Q110	B - 10
Q111	A - 9
Q112	B - 9
Q113	C - 12
Q201	B - 5
Q202	B - 5
Q203	A - 6
Q204	A - 7
Q205	A - 6
Q206	A - 5
Q207	A - 6
Q208	A - 4
Q209	A - 4
Q210	B - 3
Q211	A - 3
Q212	B - 4

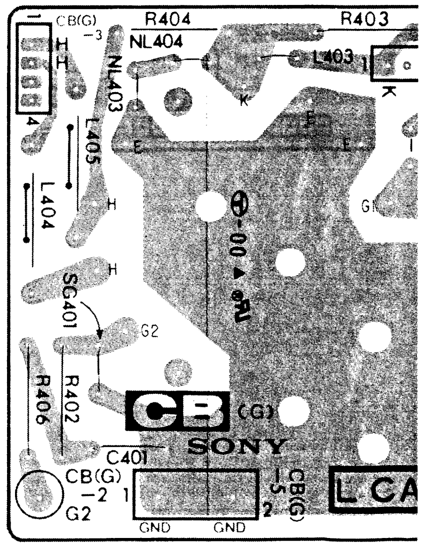
DIODE	
D1	C - 7
D2	B - 8
D3	B - 9
D4	A - 8
D5	E - 8
D6	E - 7
D7	B - 2
D8	B - 1
D9	E - 2
D11	E - 8
D12	E - 10
D13	E - 9
D101	B - 12
D103	A - 12
D104	B - 13
D105	B - 13
D106	A - 13
D107	A - 13
D108	A - 13
D109	A - 12
D110	A - 12
D111	A - 12
D112	A - 10
D113	B - 11
D114	A - 11
D115	C - 11
D201	B - 6
D203	A - 6
D204	A - 7
D205	A - 7
D206	A - 7
D207	A - 6
D208	A - 6
D209	A - 5
D210	A - 5
D211	A - 6
D212	A - 4
D213	B - 5
D214	A - 5

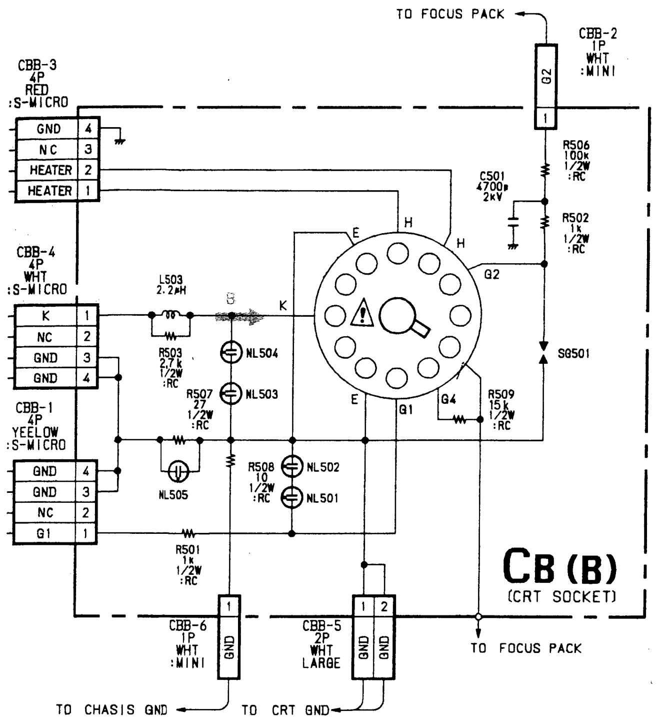

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
TO FOCUS PACK
CBR-2
1P
WHT
:MINI
CBR-3
4P
RED
:S-MICRO
TO CA (RG) BOARD
CA (R) -3
GND
NC
HEATER
HEATER
R306
100k
1/2W
:RC
C301
4700p
2kV
R302
1k
1/2W
:RC
G2
CBR-4
4P
WHT
:S-MICRO
TO CA (RG) BOARD
CA (R) -1
K
NC
GND
GND
L303
2.2μH
R303
2.7k
1/2W
:RC
NL304
NL303
SG301
R307
27
1/2W
:RC
R309
15k
1/2W
:RC
CBR-1
4P
YEELOW
:S-MICRO
TO CA (RG) BOARD
CA (R) -2
G1
NL305
R308
10
1/2W
:RC
NL302
NL301
R301
1k
1/2W
:RC
CB (R)
(CRT SOCKET)
CBR-6
1P
WHT
:MINI
CBR-5
2P
WHT
LARGE
TO FOCUS PACK
TO CHASIS GND
TO CRT GND
TO FOCUS PACK
CBB-2
1P
WHT
:MINI
CBB-3
4P
RED
:S-MICRO
TO CA (B) BOARD
CA (B) -3
R506
100k
1/2W
:RC
C501
4700p
2kV
R502
1k
1/2W
:RC
CBB-4
4P
WHT
:S-MICRO
TO CA (B) BOARD
CA (B) -1
L503
2.2μH
R503
2.7k
1/2W
:RC
NL504
NL503
SG501
R507
27
1/2W
:RC
R509
15k
1/2W
:RC
CBB-1
4P
YEELOW
:S-MICRO
TO CA (B) BOARD
CA (B) -2
NL505
R508
10
1/2W
:RC
NL502
NL501
R501
1k
1/2W
:RC
CB (B)
(CRT SOCKET)
CBB-6
1P
WHT
:MINI
CBB-5
2P
WHT
LARGE
TO FOCUS PACK
TO CHASIS GND
TO CRT GND
TO FOCUS PACK
CBG-2
1P
WHT
:MINI
CBG-3
4P
RED
:S-MICRO
TO CA (RG) BOARD
CA (G) -3
R406
100k
1/2W
:RC
C401
4700p
2kV
R402
1k
1/2W
:RC
CBG-4
4P
WHT
:S-MICRO
TO CA (RG) BOARD
CA (G) -1
L403
2.2μH
R403
2.7k
1/2W
:RC
NL404
NL403
SG401
R407
27
1/2W
:RC
R409
15k
1/2W
:RC
CBG-1
4P
YEELOW
:S-MICRO
TO CA (RG) BOARD
CA (G) -2
NL405
R408
10
1/2W
:RC
NL402
NL401
R401
1k
1/2W
:RC
CB (G)
(CRT SOCKET)
CBG-6
1P
WHT
:MINI
CBG-5
2P
WHT
LARGE
TO FOCUS PACK
TO CHASIS GND
TO CRT GND
E
H
K
G1
G2
G4

– CB (R) BOARD –

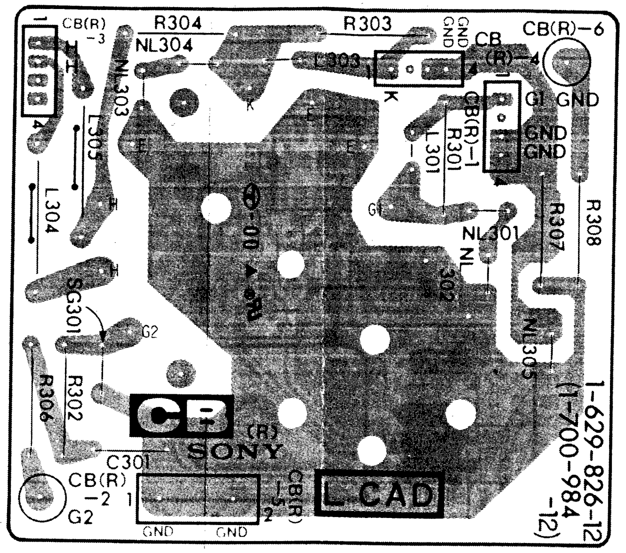

CB(R)
-3
R304
R303
NL304
NL303
L303
L305
L304
SG301
R306
R302
C301
CB(R)
-2
G2
GND
GND
CB
SONY
LCA

– CB (G) BOARD –

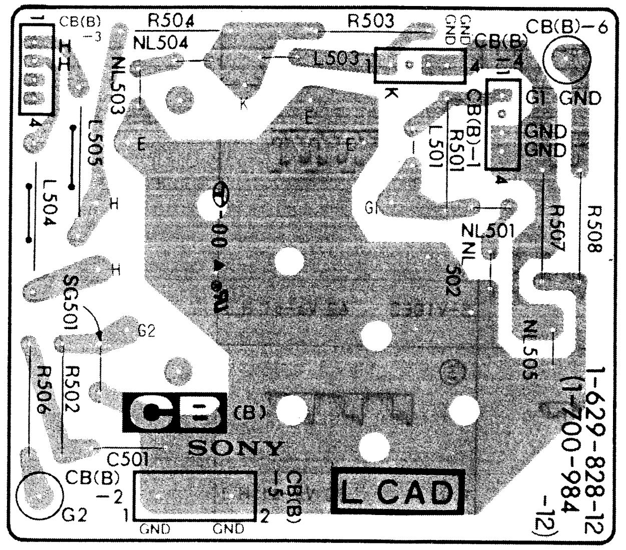

CB(G)
-3
R404
R403
NL404
NL403
L403
L405
L404
SG401
R406
R402
C401
CB(G)
-2
G2
GND
GND
CB
SONY
LCA


TO FOCUS PACK
CBB-2 1P WHT :MINI
G2
CBB-3 4P RED :S-MICRO
GND 4
NC 3
HEATER 2
HEATER 1
R506 100k 1/2W :RC
C501 4700p 2kV
R502 1k 1/2W :RC
H
E
G2
CBB-4 4P WHT :S-MICRO
K 1
NC 2
GND 3
GND 4
L503 2.2µH
R503 2.7k 1/2W :RC
NL504
NL503
R507 27 1/2W :RC
K
SG501
E
G1
G4
R509 15k 1/2W :RC
CBB-1 4P YEELOW :S-MICRO
GND 4
GND 3
NC 2
G1 1
NL505
R508 10 1/2W :RC
NL502
NL501
R501 1k 1/2W :RC
CB (B)
(CRT SOCKET)
CBB-6 1P WHT :MINI
GND
CBB-5 2P WHT LARGE
GND GND
TO FOCUS PACK
TO CHASIS GND
TO CRT GND

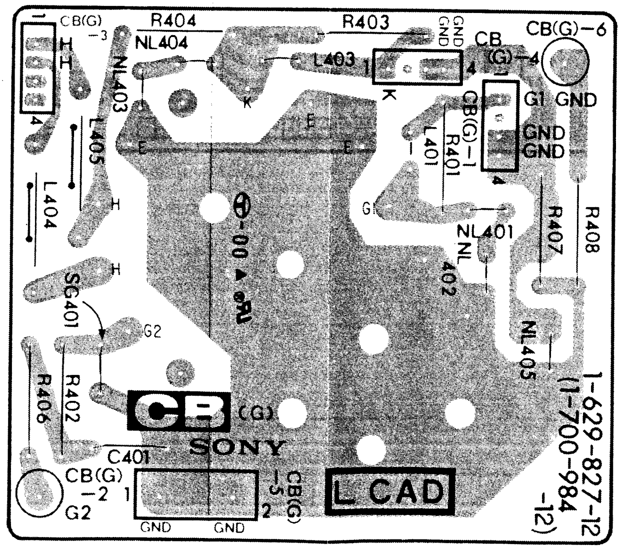
– CB (R) BOARD –


CB(R) -3
R304
NL304
R303
L303
CB (R)-4
CB(R)-6
G1 GND
GND GND
CB(R)-1
R301
L301
NL303
L305
L304
R307
R308
NL301
NL 302
SG301
G2
R306
R302
CB (R)
SONY
C301
CB(R) -2
G2
CB(R) -5
GND GND
L CAD
NL305
1-629-826-12 (1-700-984 -12)

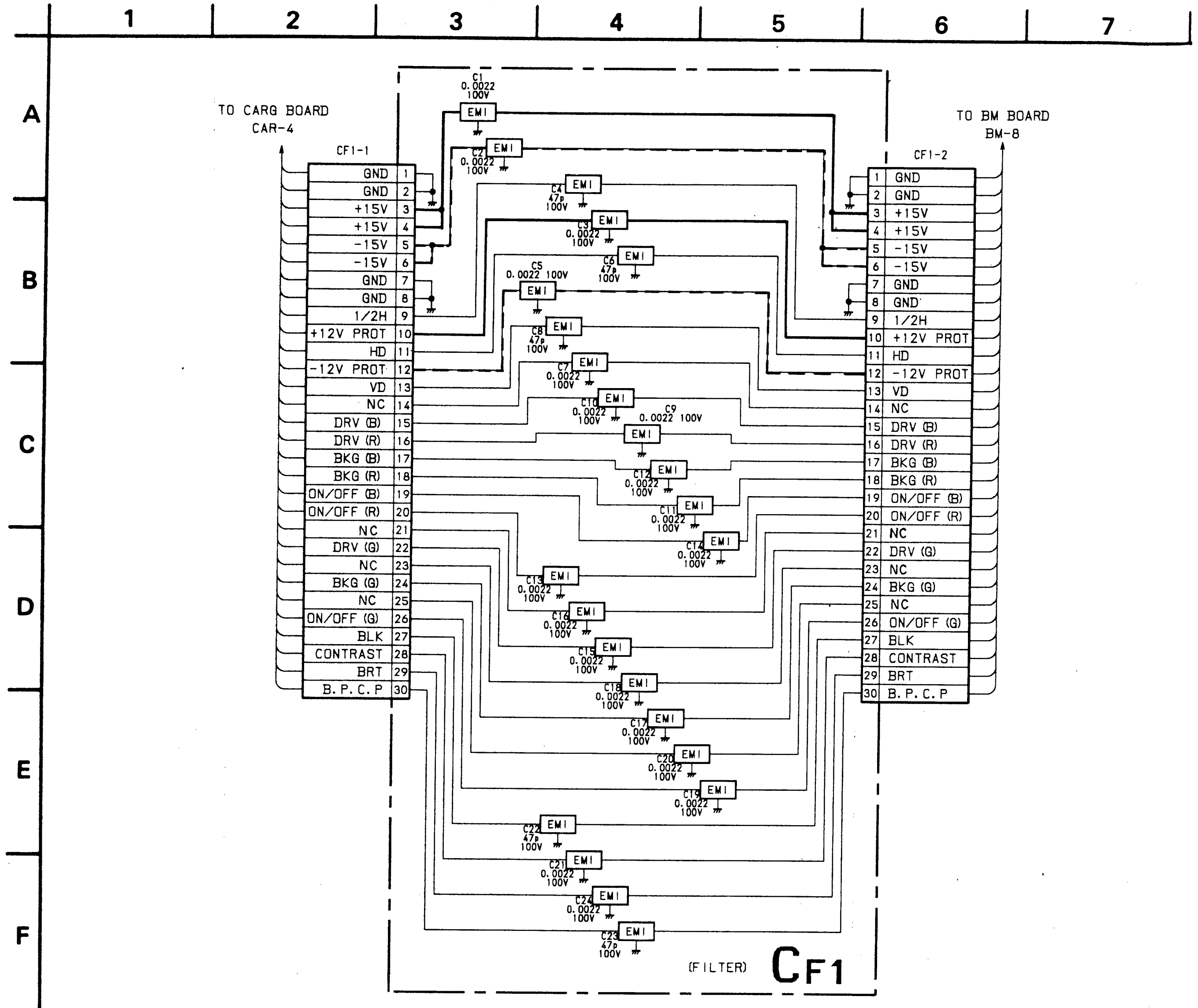
– CB (B) BOARD –

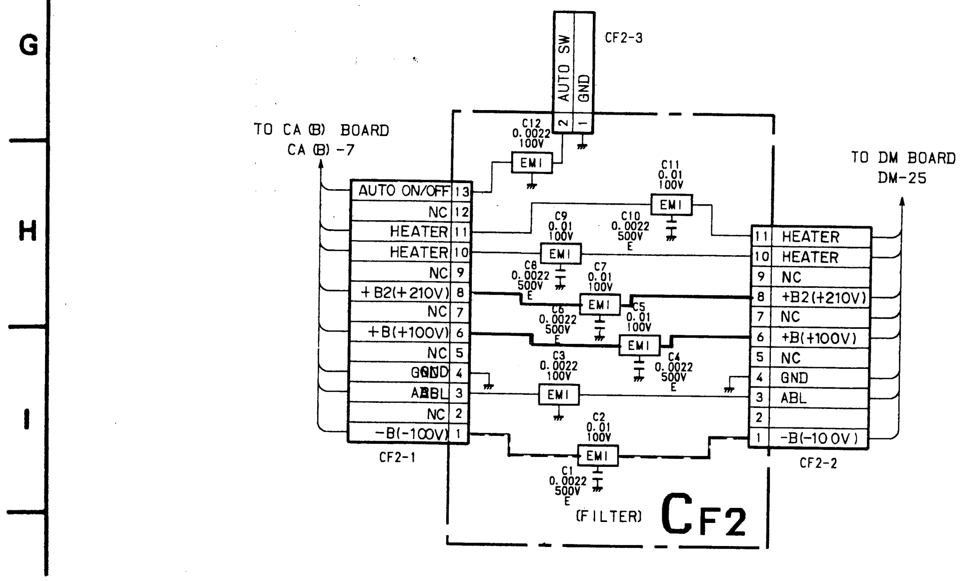

CB(B) -3
R504
NL504
R503
L503
CB(B)-4
CB(B)-6
G1 GND
GND GND
CB(B)-1
R501
L501
NL503
L505
L504
R507
R508
NL501
NL 502
SG501
G2
R506
R502
CB (B)
SONY
C501
CB(B) -2
G2
CB(B) -5
GND GND
L CAD
NL505
1-629-828-12 (1-700-984 -12)

– CB (G) BOARD –

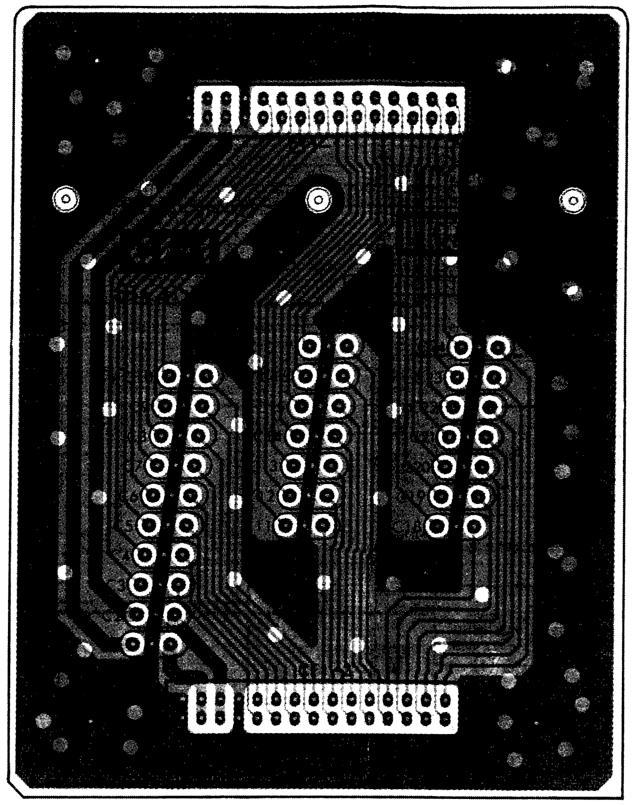

CB(G) -3
R404
NL404
R403
L403
CB (G)-4
CB(G)-6
G1 GND
GND GND
CB(G)-1
R401
L401
NL403
L405
L404
R407
R408
NL401
NL 402
SG401
G2
R406
R402
CB (G)
SONY
C401
CB(G) -2
G2
CB(G) -5
GND GND
L CAD
NL405
1-629-827-12 (1-700-984 -12)

CF-1 [FILTER] **CF-2** [FILTER]

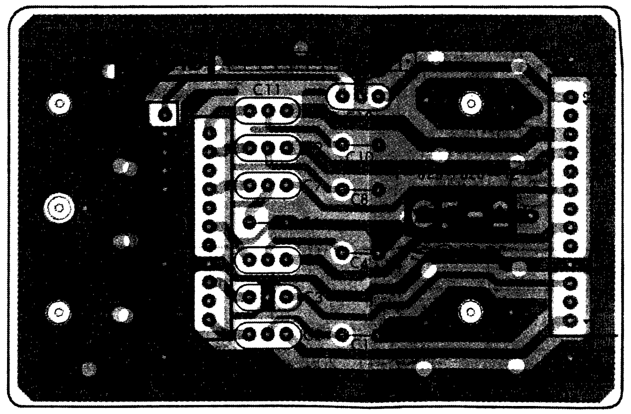

1
2
3
4
5
6
7
A
B
C
D
E
F
TO CARG BOARD
CAR-4
CF1-1
GND 1
GND 2
+15V 3
+15V 4
-15V 5
-15V 6
GND 7
GND 8
1/2H 9
+12V PROT 10
HD 11
-12V PROT 12
VD 13
NC 14
DRV (B) 15
DRV (R) 16
BKG (B) 17
BKG (R) 18
ON/OFF (B) 19
ON/OFF (R) 20
NC 21
DRV (G) 22
NC 23
BKG (G) 24
NC 25
ON/OFF (G) 26
BLK 27
CONTRAST 28
BRT 29
B.P.C.P 30
TO BM BOARD
BM-8
CF1-2
C1 0.0022 100V
C2 0.0022 100V
C3 0.0022 100V
C4 47p 100V
C5 0.0022 100V
C6 47p 100V
C7 0.0022 100V
C8 47p 100V
C9 0.0022 100V
C10 0.0022 100V
C11 0.0022 100V
C12 0.0022 100V
C13 0.0022 100V
C14 0.0022 100V
C15 0.0022 100V
C16 0.0022 100V
C17 0.0022 100V
C18 0.0022 100V
C19 0.0022 100V
C20 0.0022 100V
C21 0.0022 100V
C22 47p 100V
C23 47p 100V
C24 0.0022 100V
EMI
(FILTER) CF1

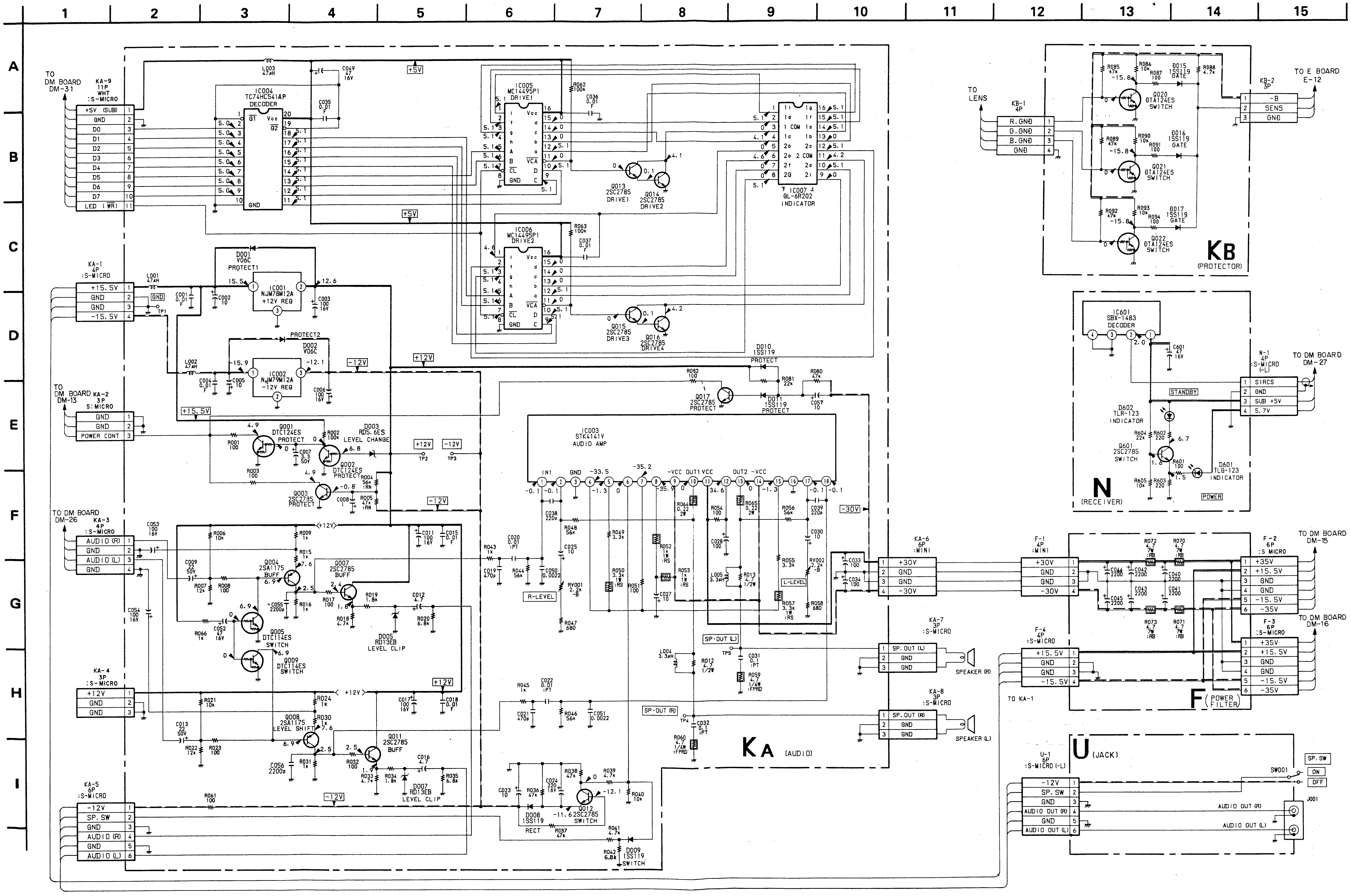

G
H
I
CF2-3
AUTO SW 2
GND 1
TO CA (B) BOARD
CA (B) -7
CF2-1
AUTO ON/OFF 13
NC 12
HEATER 11
HEATER 10
NC 9
+B2(+210V) 8
NC 7
+B(+100V) 6
NC 5
GND 4
ABL 3
NC 2
-B(-100V) 1
TO DM BOARD
DM-25
CF2-2
11 HEATER
10 HEATER
9 NC
8 +B2(+210V)
7 NC
6 +B(+100V)
5 NC
4 GND
3 ABL
2
1 -B(-100V)
C1 0.0022 500V E
C2 0.01 100V
C3 0.0022 100V
C4 0.0022 500V E
C5 0.01 100V
C6 0.0022 500V E
C7 0.01 100V
C8 0.0022 500V E
C9 0.01 100V
C10 0.0022 500V E
C11 0.01 100V
C12 0.0022 100V
EMI
(FILTER) CF2

– CF-1 BOARD –



– CF-2 BOARD –




1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I
TO DM BOARD DM-31
KA-9 11P WHT :S-MICRO
+5V (SUB)
GND
D0
D1
D2
D3
D4
D5
D6
D7
LED (WR)
IC004 TC74HC541AP DECODER
L003 47μH
C049 47 16V
C035 0.01 F
+5V
IC005 MC14495P1 DRIVE1
R062 100k
C036 0.01 F
Q013 2SC2785 DRIVE1
Q014 2SC2785 DRIVE2
IC007 GL-6R202 INDICATOR
IC006 MC14495P1 DRIVE2
R063 100k
C037 0.01 F
Q015 2SC2785 DRIVE3
Q016 2SC2785 DRIVE4
KA-1 4P :S-MICRO
+15.5V
GND
GND
-15.5V
L001 47μH
C001 0.01 F
TP1
D001 V06C PROTECT1
IC001 NJM78M12A +12V REG
C002 10
C003 100 16V
PROTECT2
D002 V06C
L002 47μH
C004 0.01 F
C005 10
IC002 NJM79M12A -12V REG
C006 100 16V
+12V
-12V
TO DM BOARD DM-13
KA-2 3P S:MICRO
GND
GND
POWER CONT
Q001 DTC124ES PROTECT
R001 100
R002 100k
C007 3.3 50V
Q002 DTC124ES PROTECT
R003 100
D003 RD5.6ES LEVEL CHANGE
Q003 2SC2785 PROTECT
R004 56k :RN
R005 47k :RN
C008
TP2
TP3
TO DM BOARD DM-26
KA-3 4P :S-MICRO
AUDIO (R)
GND
AUDIO (L)
GND
C053 100 16V
C009 22 50V
R006 10k
R007 12k
R008 100
R009 1k
R015 1k
Q004 2SA1175 BUFF
C055 2200p
R016 1k
Q007 2SC2785 BUFF
R017 100
R019 1.8k
R018 4.7k
C012 4.7
R020 6.8k
D005 RD13EB LEVEL CLIP
C011 100 16V
C015 0.01 F
C054 100 16V
C052 47 16V
R066 1k
Q005 DTC114ES SWITCH
Q009 DTC114ES SWITCH
KA-4 3P :S-MICRO
+12V
GND
GND
R021 10k
R024 1k
C013 22 50V
R022 12k
R023 100
Q008 2SA1175 LEVEL SHIFT
R030 1k
C056 2200p
R031 1k
R032 100
Q011 2SC2785 BUFF
R033 4.7k
R034 1.8k
D007 RD13EB LEVEL CLIP
C016 4.7
R035 6.8k
C017 100 16V
C018 0.01 F
KA-5 6P :S-MICRO
-12V
SP. SW
GND
AUDIO (R)
GND
AUDIO (L)
R061 100
D010 1SS119 PROTECT
R092 100
R081 22k
R080 47k
Q017 2SC2785 PROTECT
D011 1SS119 PROTECT
C057 10
IC003 STK4141V AUDIO AMP
IN1 GND -33.5 -35.2 -VCC OUT1 VCC OUT2 -VCC
R043 1k
C020 0.01 :PT
C019 470p
R044 56k
C050 0.0022
C038 220p
R048 56k
C025 10
RV001 2.2k -B
R-LEVEL
R047 680
R049 3.3k
R050 3.3k 1W :RS
R051 100
R052 1k 1W :RS
R053 1k 1W :RS
C027 10
R064 0.22 2W
R054 100
C028 100
R065 0.22 2W
L005 3.3μH
R013 4.7 1/2W
R056 56k
R055 3.3k
R057 3.3k 1W :RS
C039 220p
C030 10
RV002 2.2k -B
L-LEVEL
R058 680
-30V
SP-OUT (L)
L004 3.3μH
R012 4.7 1/2W
TP5
C031 0.1 :PT
R059 4.7 1/4W :FPRD
R045 1k
C022 0.01 :PT
C021 470p
R046 56k
C051 0.0022
SP-OUT (R)
TP4
C032 0.1 :PT
R060 4.7 1/4W :FPRD
C023 10
R036 47k
C024 220 16V
R038 47k
Q012 2SC2785 SWITCH
R039 4.7k
R040 10k
D008 1SS119 RECT
R037 47k
R041 4.7k
R042 6.8k
D009 1SS119 SWITCH
KA (AUDIO)
KA-6 6P :MINI
+30V
GND
GND
-30V
C033 100
C034 100
KA-7 3P :S-MICRO
SP. OUT (L)
GND
GND
SPEAKER (R)
KA-8 3P :S-MICRO
SP. OUT (R)
GND
GND
SPEAKER (L)
TO LENS
KB-1 4P
R. GND
G. GND
B. GND
GND
R085 47k
R086 10k
R087 100
D015 1SS119 GATE
R088 4.7k
Q020 DTA124ES SWITCH
R089 47k
R090 10k
R091 100
D016 1SS119 GATE
Q021 DTA124ES SWITCH
R092 47k
R093 10k
R094 100
D017 1SS119 GATE
Q022 DTA124ES SWITCH
KB-2 3P
-B
SENS
GND
TO E BOARD E-12
KB (PROTECTOR)
IC601 SBX-1483 DECODER
C601 47 16V
N-1 4P :S-MICRO (-L)
SIRCS
GND
SUB +5V
5.7V
TO DM BOARD DM-27
STANDBY
D602 TLR-123 INDICATOR
R604 22k
R602 220
Q601 2SC2785 SWITCH
R601 100
D601 TLG-123 INDICATOR
R605 10k
R603 220
POWER
N (RECEIVER)
F-1 4P :MINI
+30V
GND
GND
-30V
R072 4.7 7W :RB
R070 4.7 7W :RB
C044 2200
C042 2200
C040 2200
C045 2200
C043 2200
C041 2200
R073 4.7 7W :RB
R071 4.7 7W :RB
F-2 6P :S MICRO
+35V
+15.5V
GND
GND
-15.5V
-35V
TO DM BOARD DM-15
F-4 4P :S-MICRO
+15.5V
GND
GND
-15.5V
TO KA-1
F-3 6P :S-MICRO
+35V
+15.5V
GND
GND
-15.5V
-35V
TO DM BOARD DM-16
F (POWER FILTER)
U (JACK)
U-1 6P :S-MICRO (-L)
-12V
SP. SW
GND
AUDIO OUT (R)
GND
AUDIO OUT (L)
SW001
SP. SW
ON
OFF
J001
AUDIO OUT (R)
AUDIO OUT (L)

F [POWER FILTER]

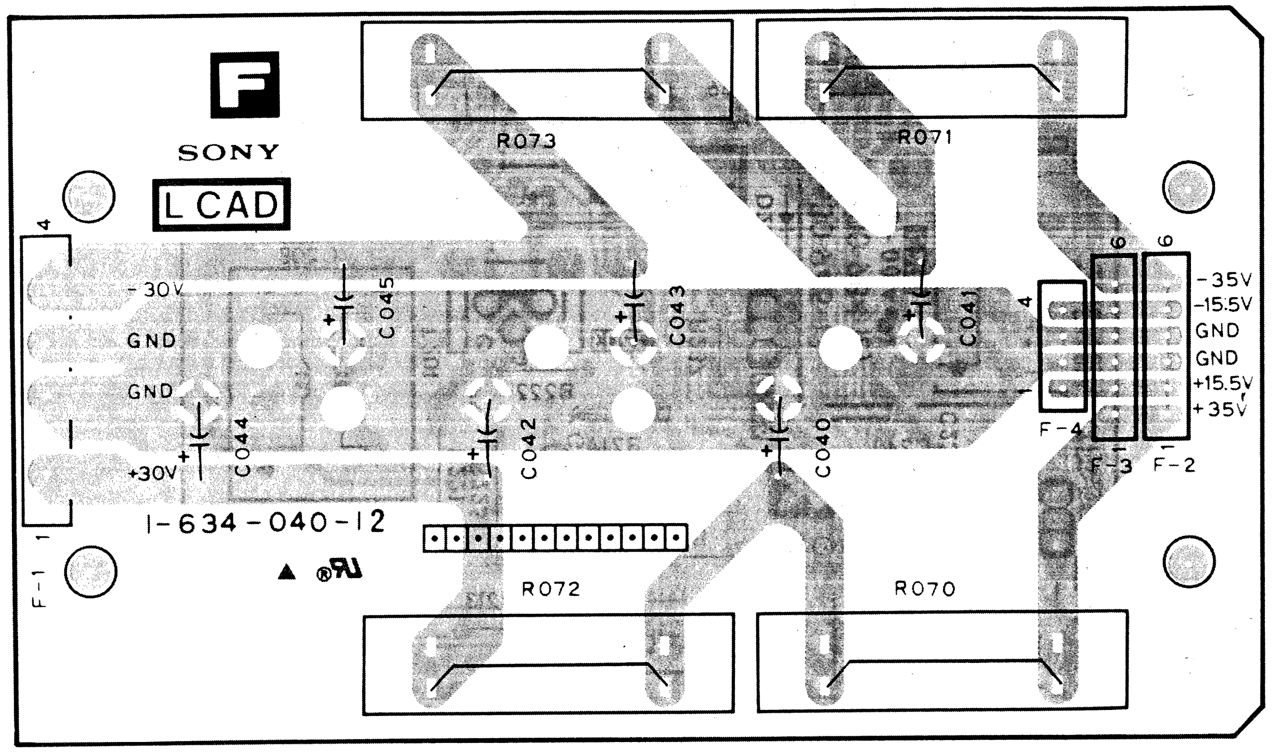
U [JACK]

KA [AUDIO]

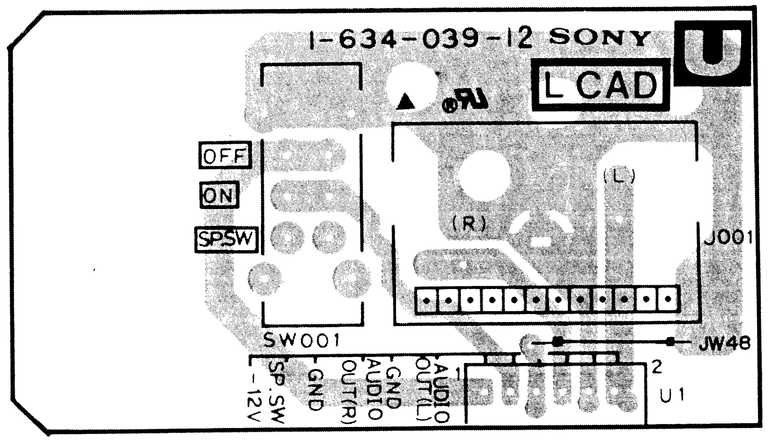
N [RECEIVER]

K

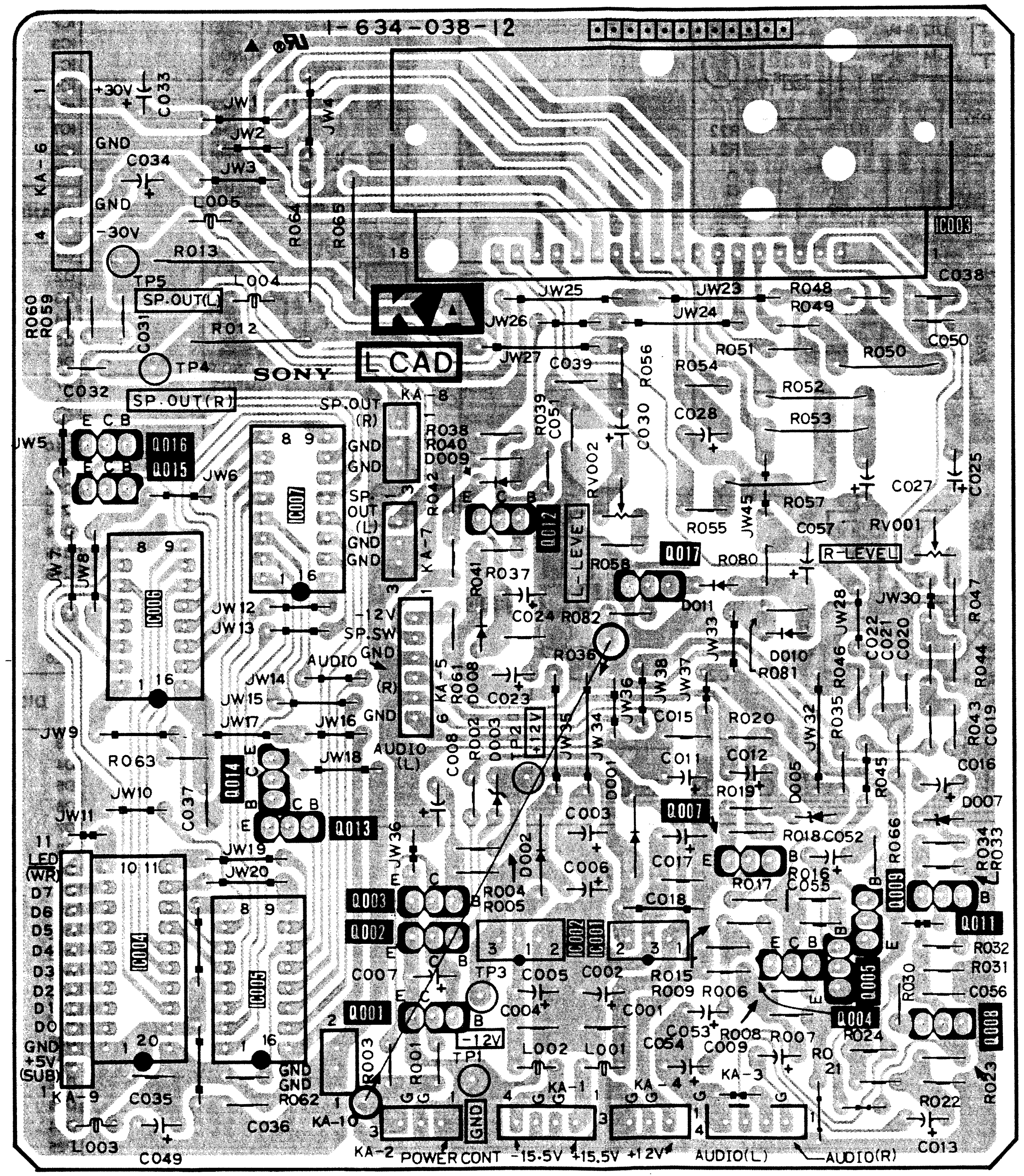
– F BOARD –


F
SONY
L CAD
R073
R071
R072
R070
-30V
GND
GND
+30V
C045
C043
C041
C044
C042
C040
-35V
-15.5V
GND
GND
+15.5V
+35V
F-4
F-3
F-2
F-1
1-634-040-12

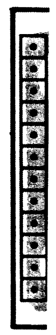
– U BOARD –


1-634-039-12 SONY
U
L CAD
OFF
ON
SPSW
(L)
(R)
J001
SW001
JW48
U1
SP SW
-12V
GND
AUDIO OUT(R)
GND
AUDIO OUT(L)

– KA BOARD –

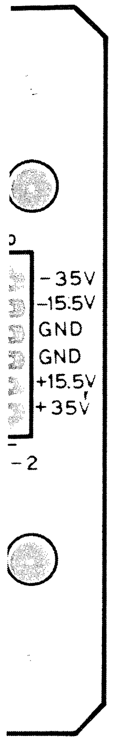

1-634-038-12
KA
SONY
L CAD
KA-6
+30V
GND
GND
-30V
C033
C034
JW1
JW2
JW3
JW4
L005
R013
R064
R065
IC008
TP5
SP-OUT(L)
L004
R012
TP4
SP.OUT(R)
C031
C032
R060
R059
JW25
JW23
JW24
JW26
JW27
R048
R049
C038
C050
R051
R050
R054
C039
R056
R052
R053
C028
C030
C027
C025
R057
C057
R055
RV001
RV002
R-LEVEL
L-LEVEL
R080
Q017
R058
D011
JW30
R047
JW28
C022
C021
C020
D010
R081
R046
R044
R043
C019
C016
D007
KA-8
KA-7
KA-5
SP-OUT(R)
GND
GND
SP-OUT(L)
GND
GND
R038
R040
D009
R039
C051
R042
Q012
R041
R037
C024
R082
R036
IC007
IC006
Q016
Q015
JW5
JW6
JW7
JW8
JW9
JW10
JW11
JW12
JW13
JW14
JW15
JW16
JW17
JW18
JW19
JW20
-12V
SP.SW
AUDIO
(R)
GND
AUDIO
(L)
R063
C037
Q014
Q013
R061
D008
C023
C008
R002
D003
TP2
+12V
JW33
JW34
JW35
JW36
JW37
JW38
JW32
C015
R020
C011
C012
R019
D005
R045
Q007
C003
C006
C017
C018
R018
C052
R016
R017
C055
R066
R034
R033
Q011
R032
R031
C056
Q010
Q005
Q004
Q008
R030
R024
R023
R022
C013
LED (WR)
D7
D6
D5
D4
D3
D2
D1
D0
GND
+5V
(SUB)
IC004
IC005
Q003
Q002
Q001
D002
R004
R005
IC002
IC001
TP3
C005
C002
C007
C004
C001
R015
R009
R006
C053
R008
R007
C054
C009
R021
-12V
L002
L001
TP1
R003
R001
R062
C035
C036
C049
L003
KA-9
KA-10
KA-2
KA-1
KA-4
KA-3
GND
POWER CONT
-15.5V
+15.5V
+12V
AUDIO(L)
AUDIO(R)

– KB

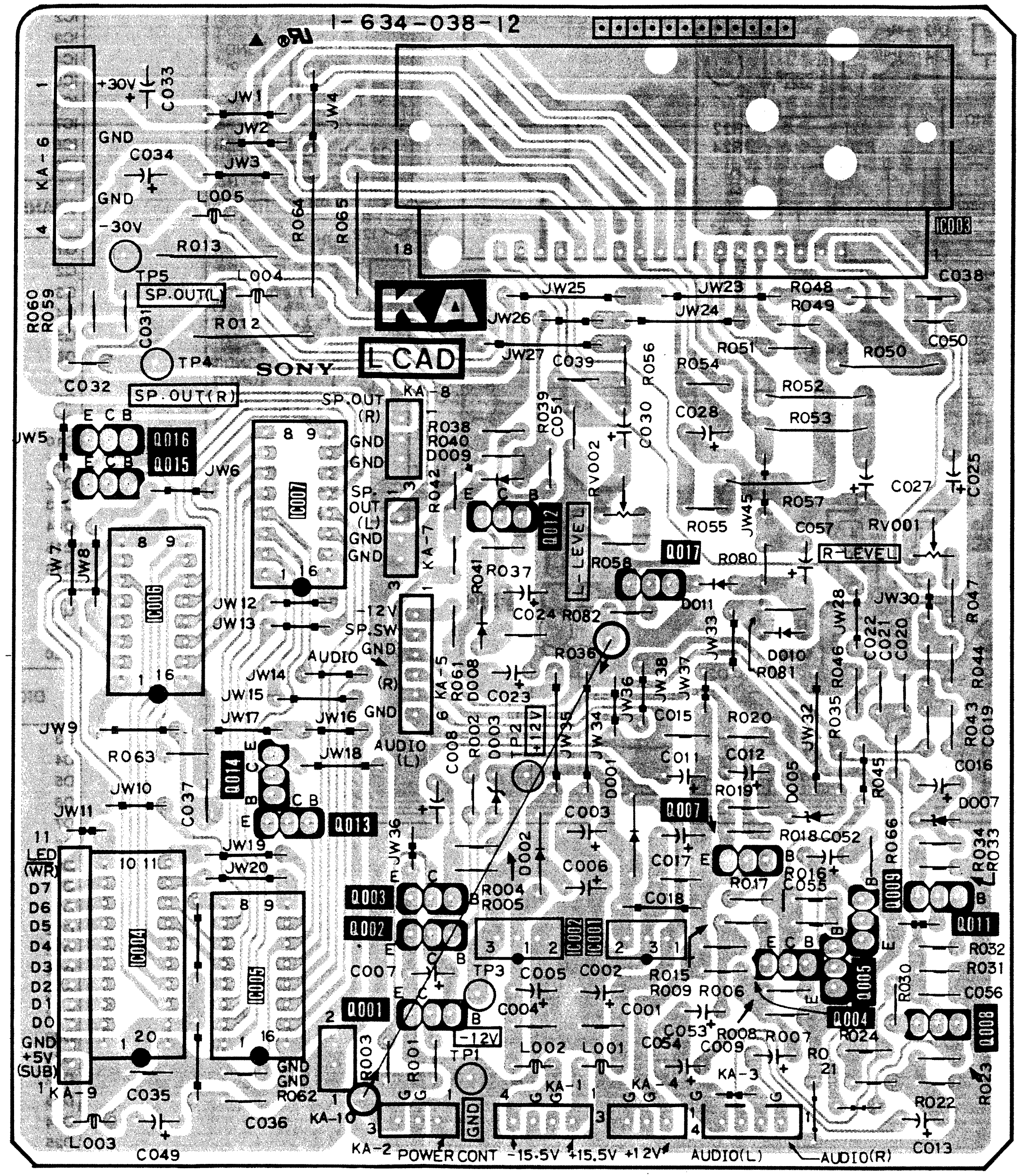


– N

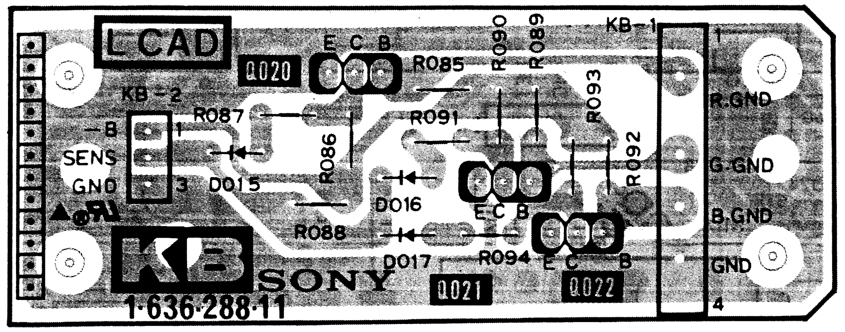
KA [AUDIO] **N** [RECEIVER] **KB** [PROTECT]


-35V
-15.5V
GND
GND
+15.5V
+35V
-2

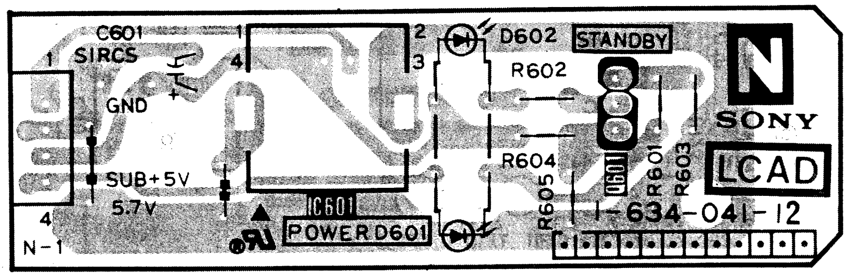
– KA BOARD –


1-634-038-12
KA
LCAD
SONY
KA-6
+30V
GND
-30V
TP5
SP-OUT(L)
TP4
SP-OUT(R)
IC003
IC004
IC005
IC006
IC007
Q001
Q002
Q003
Q004
Q005
Q007
Q008
Q009
Q011
Q012
Q013
Q014
Q015
Q016
Q017
L-LEVEL
R-LEVEL
RV001
RV002
TP1
TP2
TP3
-12V
+12V
LED (WR)
D7
D6
D5
D4
D3
D2
D1
D0
GND
+5V (SUB)
KA-9
KA-10
KA-2
KA-1
KA-3
KA-5
KA-7
KA-8
POWER CONT
-15.5V
+15.5V
+12V
AUDIO(L)
AUDIO(R)
SP.SW
GND

– KB BOARD –

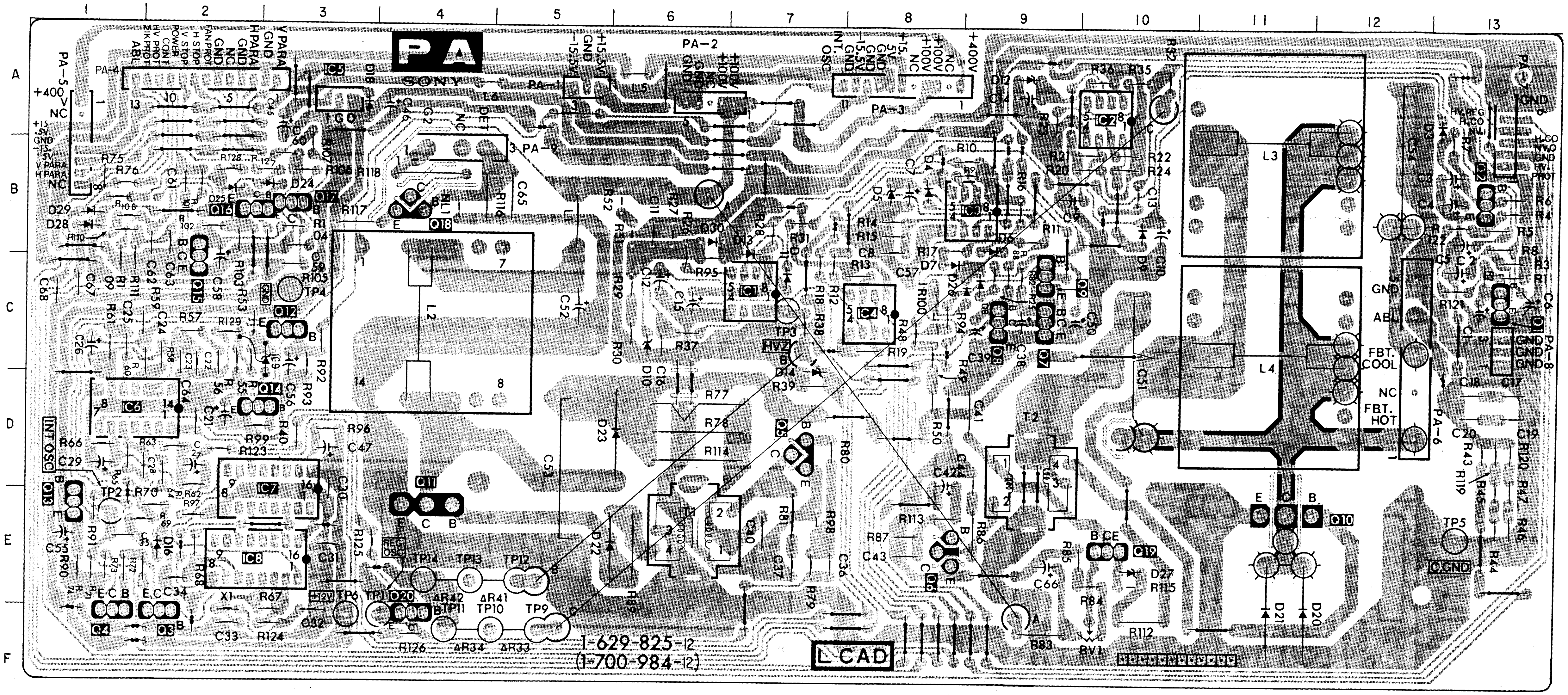

LCAD
KB
SONY
1-636-288-11
KB-1
KB-2
B
SENS
GND
Q020
Q021
Q022
D015
D016
D017
R085
R086
R087
R088
R089
R090
R091
R092
R093
R094
E C B
R.GND
G.GND
B.GND
GND

– N BOARD –

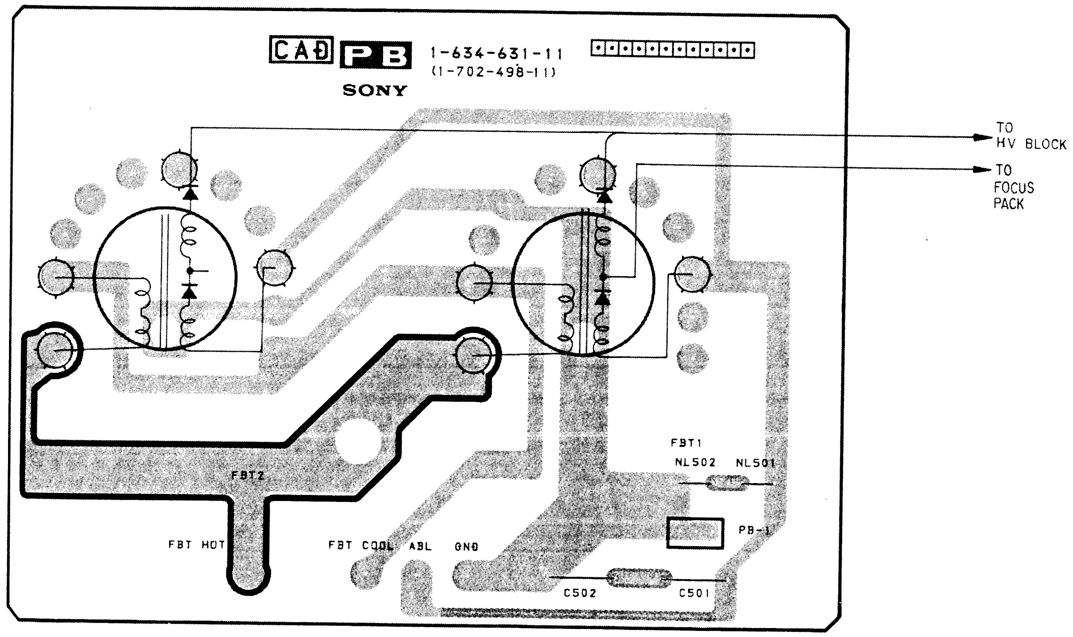

N
SONY
LCAD
1-634-041-12
N-1
C601
SIRCS
GND
SUB+5V
5.7V
IC601
POWER D601
D602
STANDBY
R602
R604
R601
R603
R605
Q601

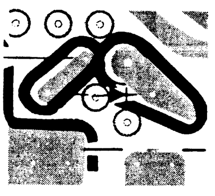
PA [HIGH VOLTAGE REG.] **PB** [FBT]

- PA BOARD -


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
PA
SONY
PA-1
PA-2
PA-3
PA-4
PA-5
PA-6
PA-7
PA-8
PA-9
+400V
NC
+15
+5V
GND
-15
-5V
V PARA
H PARA
ABL
HV PROT
POWER CONT
V STOP
H STOP
FAN PROT
GND
H PARA
V PARA
+15.5V
GND
-15.5V
+100V
INT. OSC
L1
L2
L3
L4
L5
L6
T1
T2
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
HVZ
TP1
TP2
TP3
TP4
TP5
TP6
TP9
TP10
TP11
TP12
TP13
TP14
RV1
X1
GND
ABL
FBT. COOL
NC
FBT. HOT
C.GND
INT OSC
REG OSC
+12V
1-629-825-12
(1-700-984-12)
CAD

- PB BOARD -

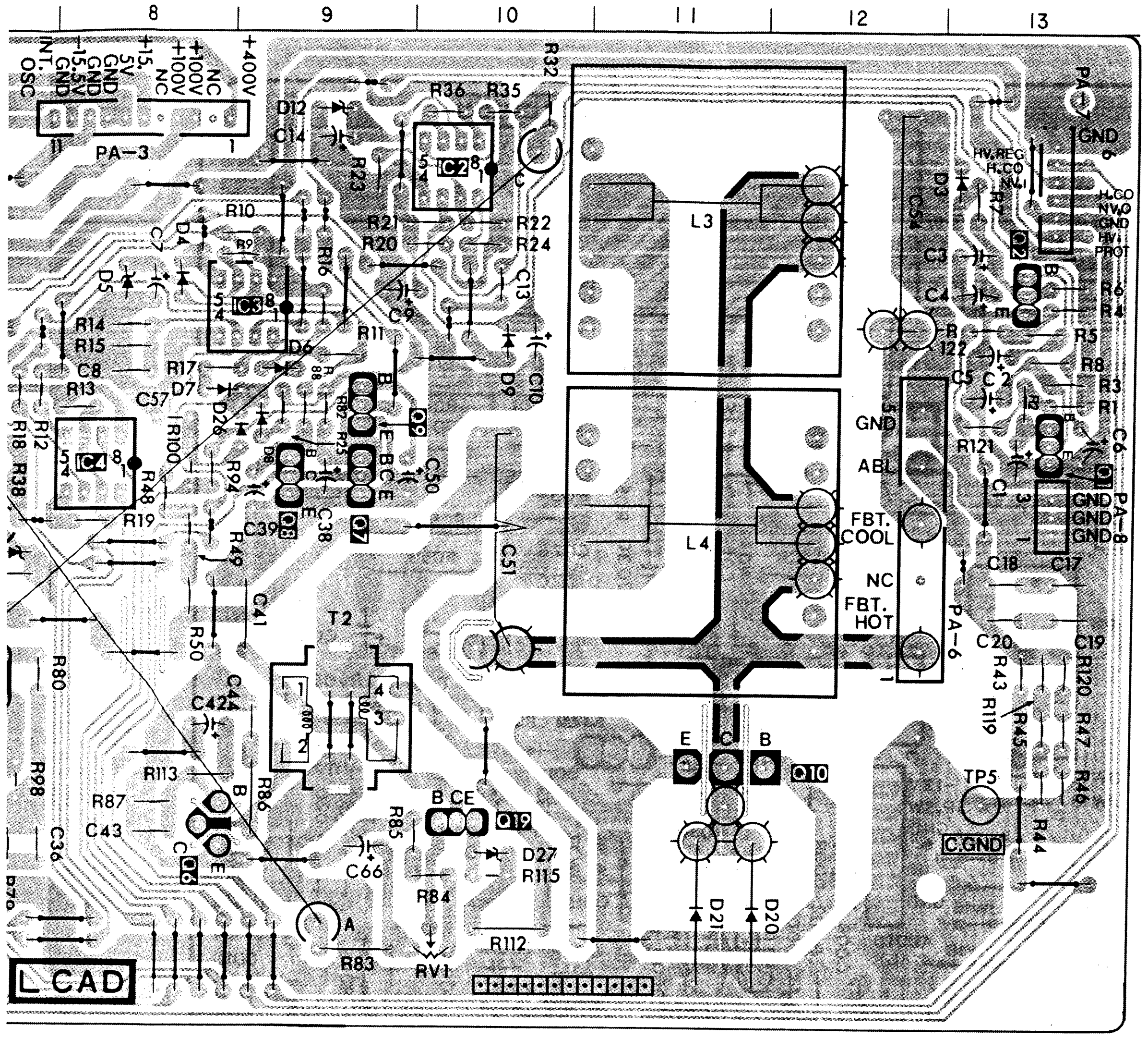

CAD
PB
1-634-631-11
(1-702-498-11)
SONY
TO HV BLOCK
TO FOCUS PACK
FBT1
FBT2
NL502
NL501
PB-1
FBT HOT
FBT COOL
ABL
GND
C502
C501

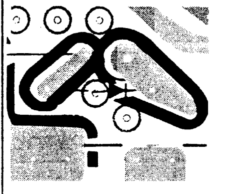


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

PA BOARD

IC	
IC1	C - 7
IC2	A - 10
IC3	B - 9
IC4	C - 8
IC5	A - 3
IC6	D - 1
IC7	D - 3
IC8	E - 3
IC9	C - 3
TRANSISTOR	
Q1	C - 13
Q2	B - 13
Q3	F - 2
Q4	F - 1
Q5	D - 7
Q6	E - 8
Q7	C - 9
Q8	C - 9
Q9	C - 9
Q10	E - 11
Q11	E - 4
Q12	C - 3
Q13	E - 1
Q14	D - 3
Q15	C - 2
Q16	B - 2
Q17	B - 3
Q18	B - 4
Q19	E - 10
Q20	F - 4
DIODE	
D3	A - 13
D4	B - 8
D5	B - 8
D6	B - 9
D7	C - 8
D8	C - 9
D9	B - 10
D10	C - 6
D11	C - 7
D12	A - 9
D13	B - 7
D14	C - 7
D16	E - 2
D18	A - 3
D20	E - 11
D21	E - 11
D22	E - 6
D23	D - 6
D24	B - 3
D25	B - 2
D26	C - 9
D27	E - 10
D28	B - 1
D29	B - 1
ADJUSTING ELEMENT	
RV1	F - 10


8
9
10
11
12
13
PA–3
+400V
NC
+100V
+100V
NC
GND
5V
+15.
-15.5V
GND
INT.
OSC
IC2
IC3
IC4
L3
L4
T2
D12
C14
R36
R35
R32
R23
R21
R20
R22
R24
R10
R9
R16
D4
D5
C7
R14
R15
C8
R13
R17
D7
C57
D6
R11
C9
C13
D9
C10
Q8
Q7
Q9
C50
C38
C39
R94
R48
R19
R49
C41
R50
R80
R98
C36
C42
R113
R87
C43
Q6
R86
A
R83
RV1
R112
R84
C66
R85
B CE
Q19
D27
R115
E
C
B
Q10
D21
D20
TP5
C.GND
C51
GND
ABL
FBT.
COOL
NC
FBT.
HOT
PA–6
C20
R43
R119
R45
C19
R120
R47
R46
R44
C18
C17
GND
GND
GND
PA–8
R121
Q1
C6
R3
R1
R8
R5
R4
R6
D3
C54
C3
C4
Q2
R7
R122
C5
HV.REG
H.CO
NV.O
GND
HV.
PROT
PA–7
GND
L CAD



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

PA BOARD

IC	
IC1	C - 7
IC2	A - 10
IC3	B - 9
IC4	C - 8
IC5	A - 3
IC6	D - 1
IC7	D - 3
IC8	E - 3
IC9	C - 3

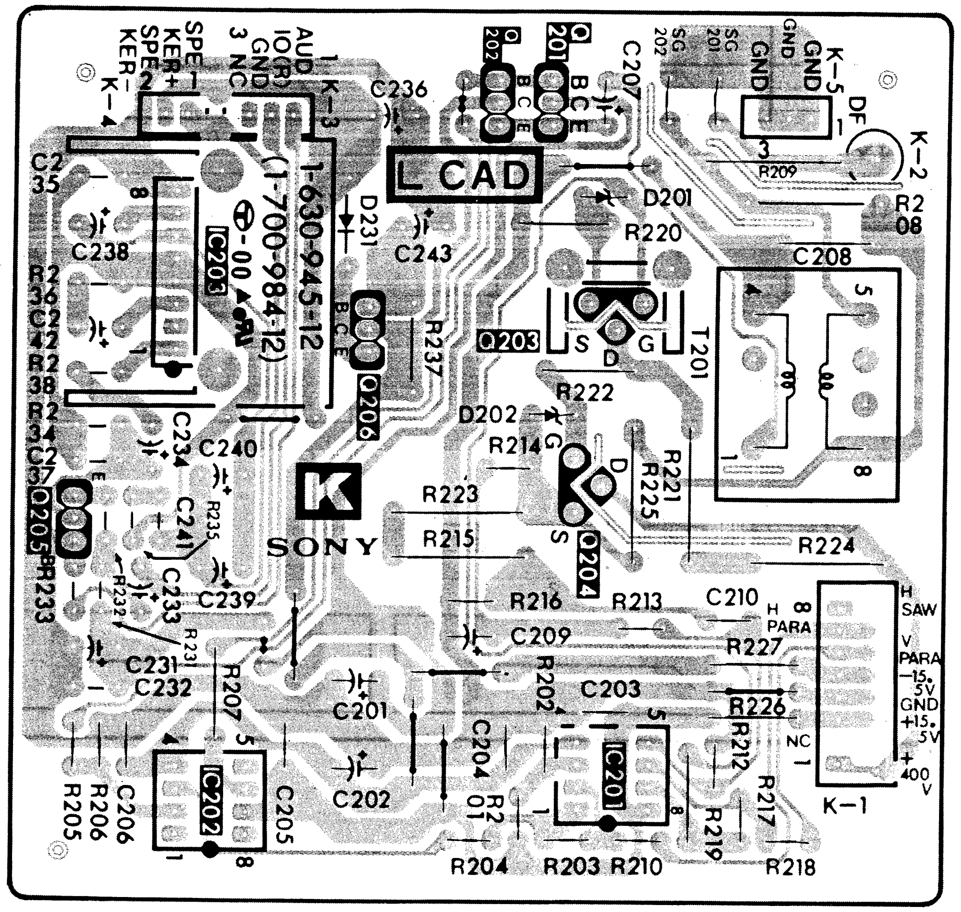
TRANSISTOR	
Q1	C - 13
Q2	B - 13
Q3	F - 2
Q4	F - 1
Q5	D - 7
Q6	E - 8
Q7	C - 9
Q8	C - 9
Q9	C - 9
Q10	E - 11
Q11	E - 4
Q12	C - 3
Q13	E - 1
Q14	D - 3
Q15	C - 2
Q16	B - 2
Q17	B - 3
Q18	B - 4
Q19	E - 10
Q20	F - 4

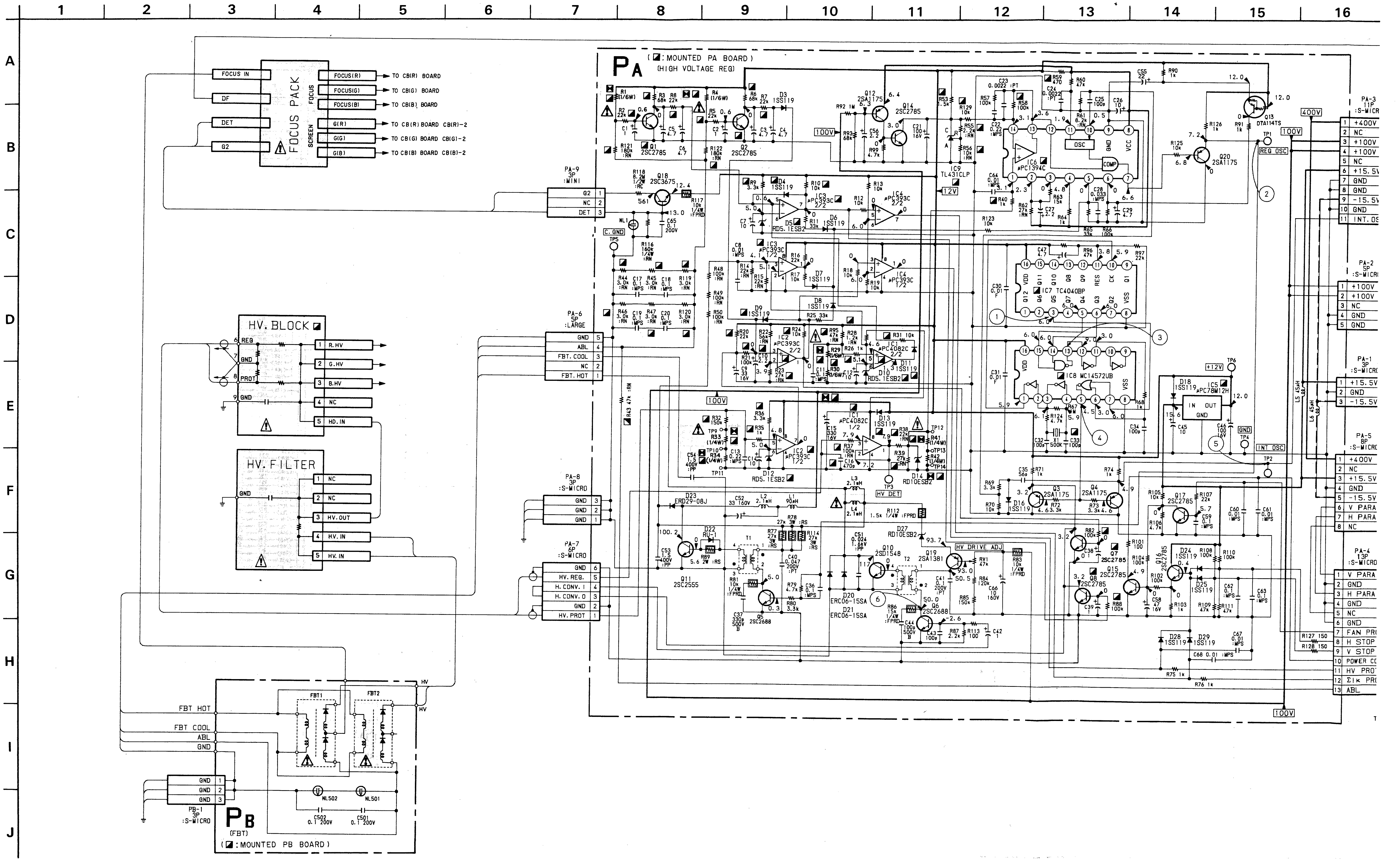
DIODE	
D3	A - 13
D4	B - 8
D5	B - 8
D6	B - 9
D7	C - 8
D8	C - 9
D9	B - 10
D10	C - 6
D11	C - 7
D12	A - 9
D13	B - 7
D14	C - 7
D16	E - 2
D18	A - 3
D20	E - 11
D21	E - 11
D22	E - 6
D23	D - 6
D24	B - 3
D25	B - 2
D26	C - 9
D27	E - 10
D28	B - 1
D29	B - 1

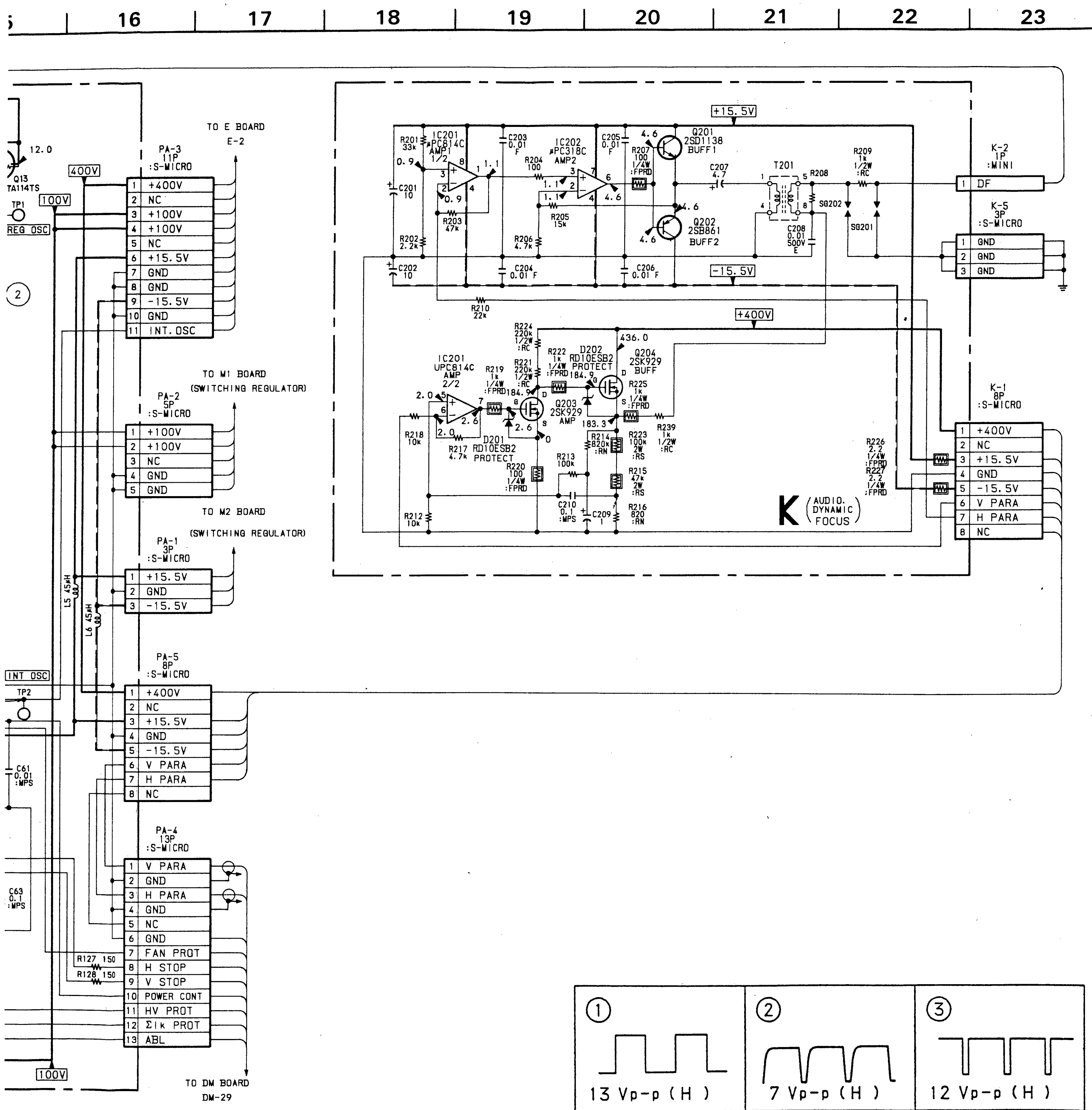
ADJUSTING ELEMENT	
RV1	F - 10

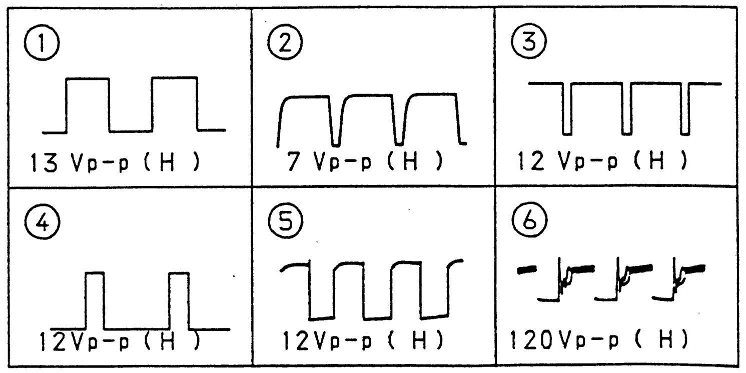
K [AUDIO DYNAMIC FOCUS]

– K BOARD –


K–3
AUD IO(R)
GND
3 NC
SPE–1
KER+
SPE–2
KER–
K–4
Q202
Q201
B C E
C207
SG 202
SG 201
GND
GND
K–5
DF
K–2
R208
R209
C236
L CAD
D201
R220
C208
T201
C235
C238
R236
C242
R238
R234
C237
Q205
R233
1-630-945-12
(1-700-984-12)
IC203
D231
C243
Q206
R237
Q203
S G D
R222
D202
R214
G D S
Q204
R221
R225
R224
C234
C240
R235
C241
C233
R232
C239
K
SONY
R223
R215
R216
R213
C210
H PARA
R227
C209
R202
C203
R226
R212
C231
C232
R231
R207
C201
IC202
C202
C204
R201
IC201
R217
R219
R205
R206
C206
C205
R204
R203
R210
R218
H SAW
V PARA
-15.5V
GND
+15.5V
NC
+400V
K–1

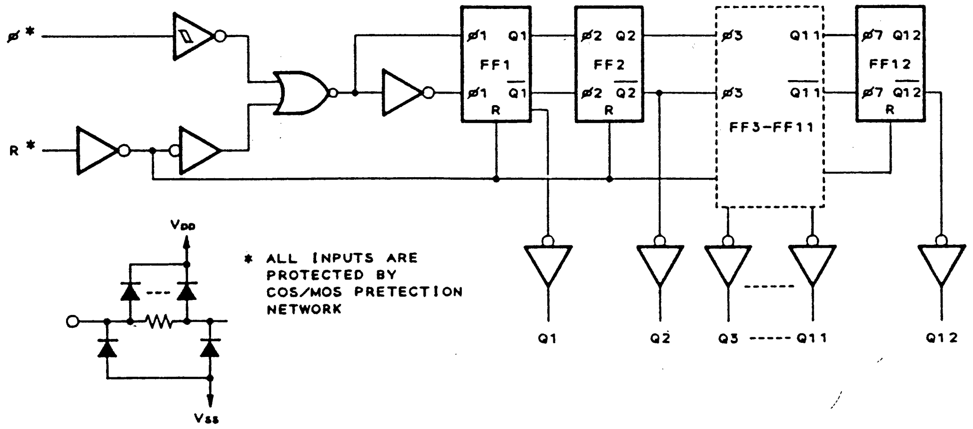

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
PA (■: MOUNTED PA BOARD) (HIGH VOLTAGE REG)
FOCUS PACK
FOCUS IN
DF
DET
G2
FOCUS
SCREEN
FOCUS(R)
FOCUS(G)
FOCUS(B)
G(R)
G(G)
G(B)
TO CB(R) BOARD
TO CB(G) BOARD
TO CB(B) BOARD
TO CB(R) BOARD CB(R)-2
TO CB(G) BOARD CB(G)-2
TO CB(B) BOARD CB(B)-2
HV. BLOCK ■
REG
GND
PROT
R.HV
G.HV
B.HV
NC
HD.IN
HV. FILTER
HV.OUT
HV.IN
PA-9 3P :MINI
G2
NC
DET
PA-6 5P :LARGE
ABL
FBT. COOL
FBT. HOT
PA-8 3P :S-MICRO
PA-7 6P :S-MICRO
HV. REG.
H. CONV. 1
H. CONV. 0
HV. PROT
C. GND
TP5
Q18 2SC3675
Q1 2SC2785
Q2 2SC2785
Q12 2SA1175
Q14 2SC2785
IC9 TL431CLP
IC6 μPC1394C
OSC
COMP
GND
VCC
Q13 DTA114TS
Q20 2SA1175
TP1
REG OSC
400V
100V
12V
IC4 μPC393C
IC3 μPC393C
IC2 μPC393C
IC1 μPC4082C
IC7 TC4040BP
IC8 MC14572UB
VDD
VSS
Q3 2SA1175
Q4 2SA1175
Q17 2SC2785
Q16 2SC2785
Q15 2SC2785
Q7 2SC2785
Q8 2SC2785
Q11 2SC2555
Q5 2SC2688
Q6 2SC2688
Q10 2SD1548
Q19 2SA1381
IC5 μPC78M12H
IN OUT GND
HV DET
HV DRIVE ADJ
INT OSC
TP2
TP3
TP4
TP6
TP12
TP13
TP14
D20 ERC06-15SA
D21 ERC06-15SA
D23 ERD29-08J
D27 RD10ESB2
T1
T2
PA-3 11P :S-MICRO
+400V
NC
+100V
+15.5V
GND
-15.5V
INT. OSC
PA-2 5P :S-MICRO
PA-1 3P :S-MICRO
PA-5 8P :S-MICRO
V PARA
H PARA
PA-4 13P :S-MICRO
FAN PRO
H STOP
V STOP
POWER CO
HV PROT
ΣIK PRO
ABL
FBT HOT
FBT COOL
FBT1
FBT2
HV
NL502
NL501
C502 0.1 200V
C501 0.1 200V
PB-1 3P :S-MICRO
PB (FBT)
(■: MOUNTED PB BOARD)


16
17
18
19
20
21
22
23
24
25
TO E BOARD E-2
PA-3 11P :S-MICRO
1 +400V
2 NC
3 +100V
4 +100V
5 NC
6 +15.5V
7 GND
8 GND
9 -15.5V
10 GND
11 INT.OSC
Q13 TA114TS
TP1
REG OSC
400V
100V
②
TO M1 BOARD (SWITCHING REGULATOR)
PA-2 5P :S-MICRO
1 +100V
2 +100V
3 NC
4 GND
5 GND
TO M2 BOARD (SWITCHING REGULATOR)
PA-1 3P :S-MICRO
1 +15.5V
2 GND
3 -15.5V
L5 45μH
L6 45μH
INT OSC
TP2
PA-5 8P :S-MICRO
1 +400V
2 NC
3 +15.5V
4 GND
5 -15.5V
6 V PARA
7 H PARA
8 NC
C61 0.01 :MPS
C63 0.1 :MPS
PA-4 13P :S-MICRO
1 V PARA
2 GND
3 H PARA
4 GND
5 NC
6 GND
7 FAN PROT
8 H STOP
9 V STOP
10 POWER CONT
11 HV PROT
12 ΣIk PROT
13 ABL
R127 150
R128 150
100V
TO DM BOARD DM-29
+15.5V
-15.5V
+400V
IC201 μPC814C AMP1 1/2
IC202 μPC318C AMP2
Q201 2SD1138 BUFF1
Q202 2SB861 BUFF2
T201
C207 4.7
R208
R209 1k 1/2W :RC
SG202
SG201
C208 0.01 500V E
K-2 1P :MINI
1 DF
K-5 3P :S-MICRO
1 GND
2 GND
3 GND
IC201 UPC814C AMP 2/2
Q203 2SK929 AMP
Q204 2SK929 BUFF
D201 RD10ESB2 PROTECT
D202 RD10ESB2 PROTECT
436.0
184.9
183.3
K-1 8P :S-MICRO
1 +400V
2 NC
3 +15.5V
4 GND
5 -15.5V
6 V PARA
7 H PARA
8 NC
R226 2.2 1/4W :FPRD
R227 2.2 1/4W :FPRD
K (AUDIO. DYNAMIC FOCUS)

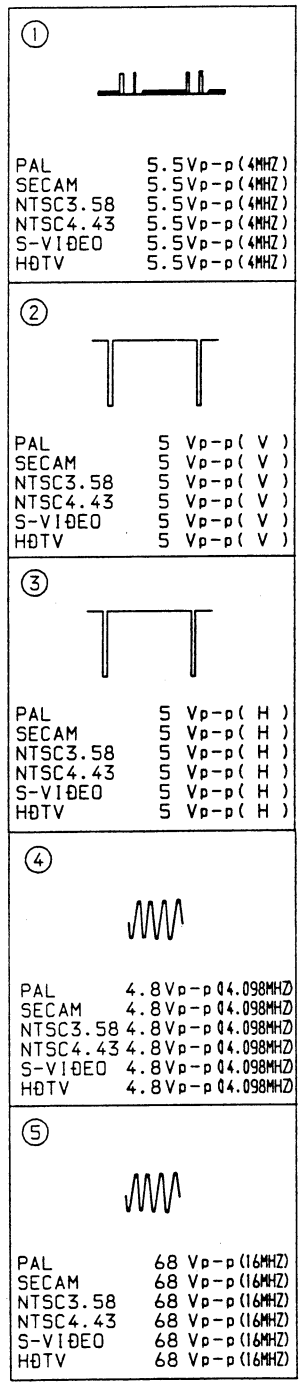

①
13 Vp-p (H)
②
7 Vp-p (H)
③
12 Vp-p (H)
④
12Vp-p (H)
⑤
12Vp-p (H)
⑥
120Vp-p (H)

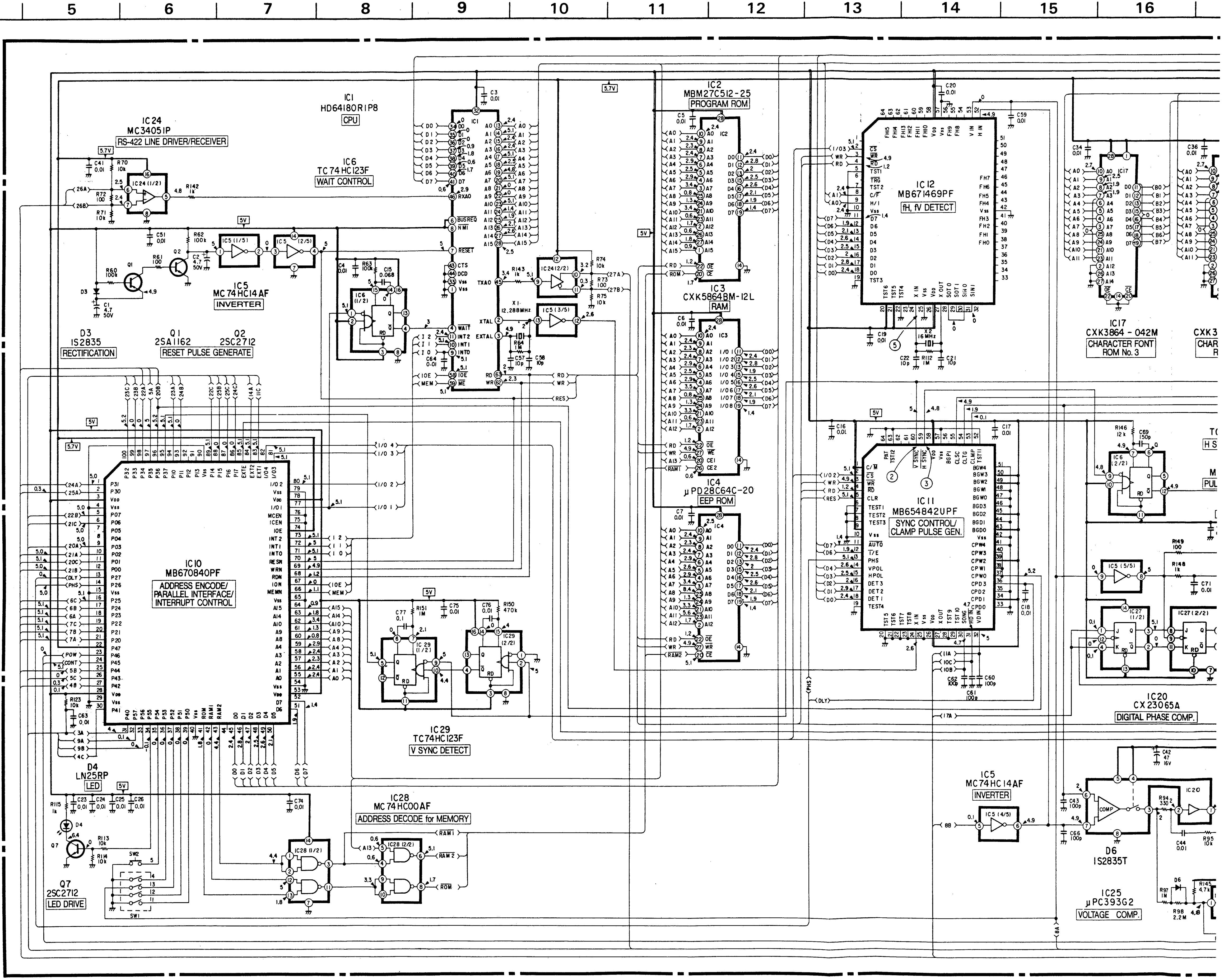
PA	IC1 (1/2)	μ PC4082C	HV REG DET
	1 (2/2)	μ PC4082C	LOW B PROT
	2 (1/2)	μ PC393C	HV PROT DET
	2 (2/2)	μ PC393C	HV PROT
	3 (1/2)	μ PC393C	REG UP PROT
	3 (2/2)	μ PC393C	Σ IK PROT
	4 (1/2)	μ PC393C	HV PROT BUFF
	4 (2/2)	μ PC393C	Σ IK PROT BUFF
	5	μ PC78M12H	+ 12V REG
	6	μ PC1394CH	HV REG CONTROL
	7	TC4040BP	OSC DEV-1
	8	MC14572UB	OSC DEV-2
	9	TL431CLP	HV REG REF
	Q1	2SC2785	Σ IK DET-1
	2	2SC2785	Σ IK DET-2
	3	2SA1175	OSC BUFF-1
	4	2SA1175	OSC BUFF-2
	5	2SC2688	HV REG DRIVE
	6	2SC2688	HV CONV DRIVE
	7	2SC2785	HV STOP SW-1
	8	2SC2785	HV STOP SW-2
	9	2SC2785	HV STOP SW-3
	10	2SD1548	HV CONV
	11	2SC2555	HV REG
	12	2SA1175	POWER ON RESET-1
	13	2SA1175	POWER OFF RESET
	14	2SC2785	POWER ON RESET-2
	15	2SC2785	POWER CONT
	16	2SC2785	STOP BUFF
	17	2SC2785	STOP INV
	18	2SC3675	G2 REG
	19	2SA1381	HV DRIVE CONT
	20	2SA1175	REG OSC BUFF
	D3	1SS119	Σ IK SW
	4	1SS119	Σ IK HOLD
	5	RD5.1ESB2	Σ IK ZENER
	6	1SS119	REG STOP SW-1
	7	1SS119	REG STOP SW-2
	8	1SS119	REG STOP SW-3
	9	1SS119	HV PROT HOLD
	10	RD5.1ESB2	LOW B PROT ZENER
	11	1SS119	REG STOP SW-4
	12	RD5.1ESB2	HV PROT ZENER
	13	1SS119	+ 12V HOLD
	14	RD10ESB2	REG PROT
	16	1SS119	OSC CLAMP
	18	1SS119	+ 12V REG PROT
	20	ERC06-15SA	DUMPER-1
	21	ERC06-15SA	DUMPER-2
	22	RU-1	SPEED UP-1
	23	ERD29-08J	HV REG CLAMP
	24	1SS119	STOP SW-1
	25	1SS119	STOP SW-2
	26	1SS119	REG STOP SW-5
	27	RD10ESB2	LEBEL SHIFT
	28	1SS119	STOP SW-3
	29	1SS119	STOP SW-4

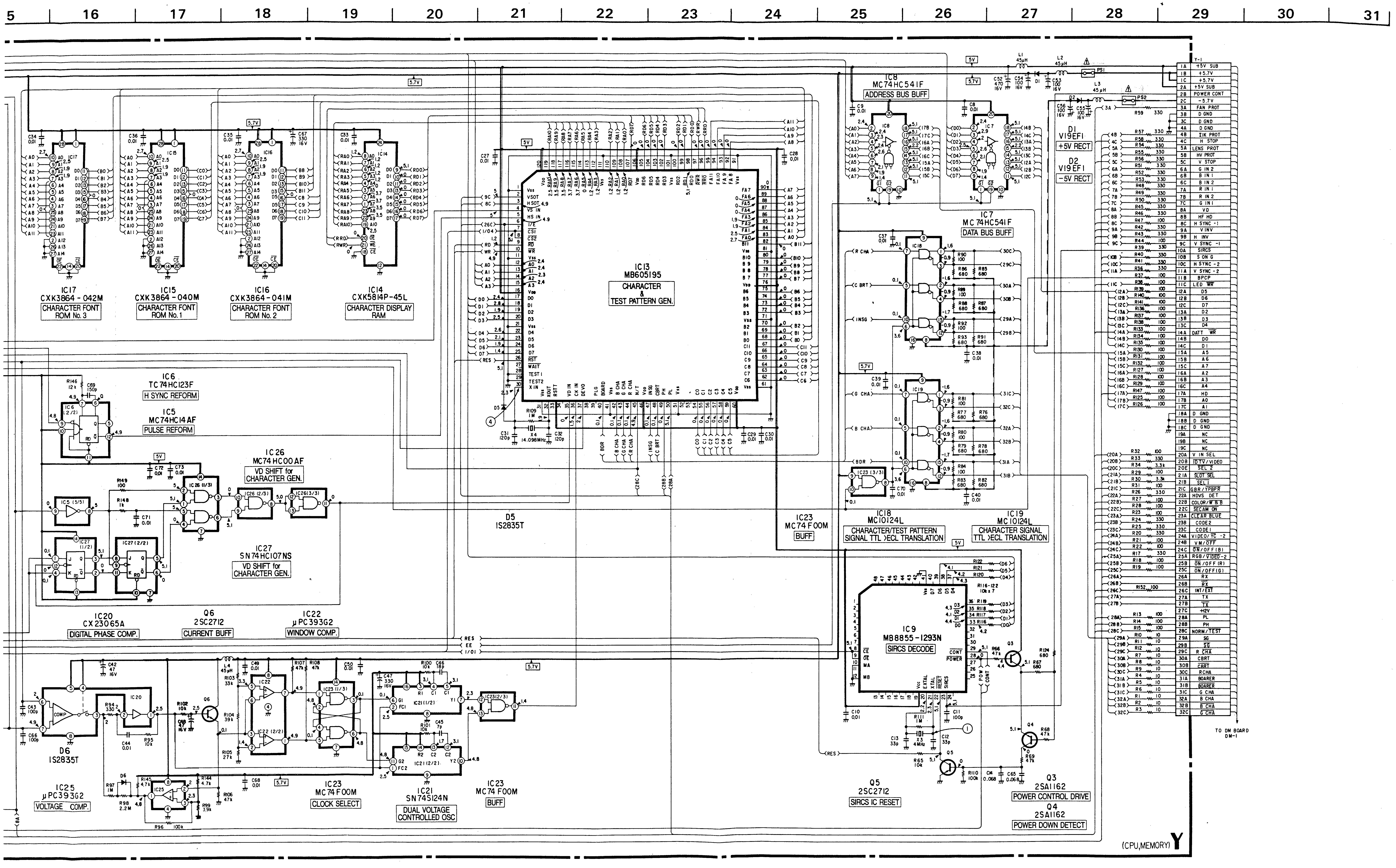
IC7 TC4040BP


26
27
28
29
30
ø *
R *
ø1 Q1
FF1
ø1 Q1
R
ø2 Q2
FF2
ø2 Q2
R
ø3 Q11
ø3 Q11
FF3-FF11
ø7 Q12
FF12
ø7 Q12
R
Q1
Q2
Q3 ------ Q11
Q12
VDD
VSS

* ALL INPUTS ARE PROTECTED BY COS/MOS PRETECTION NETWORK

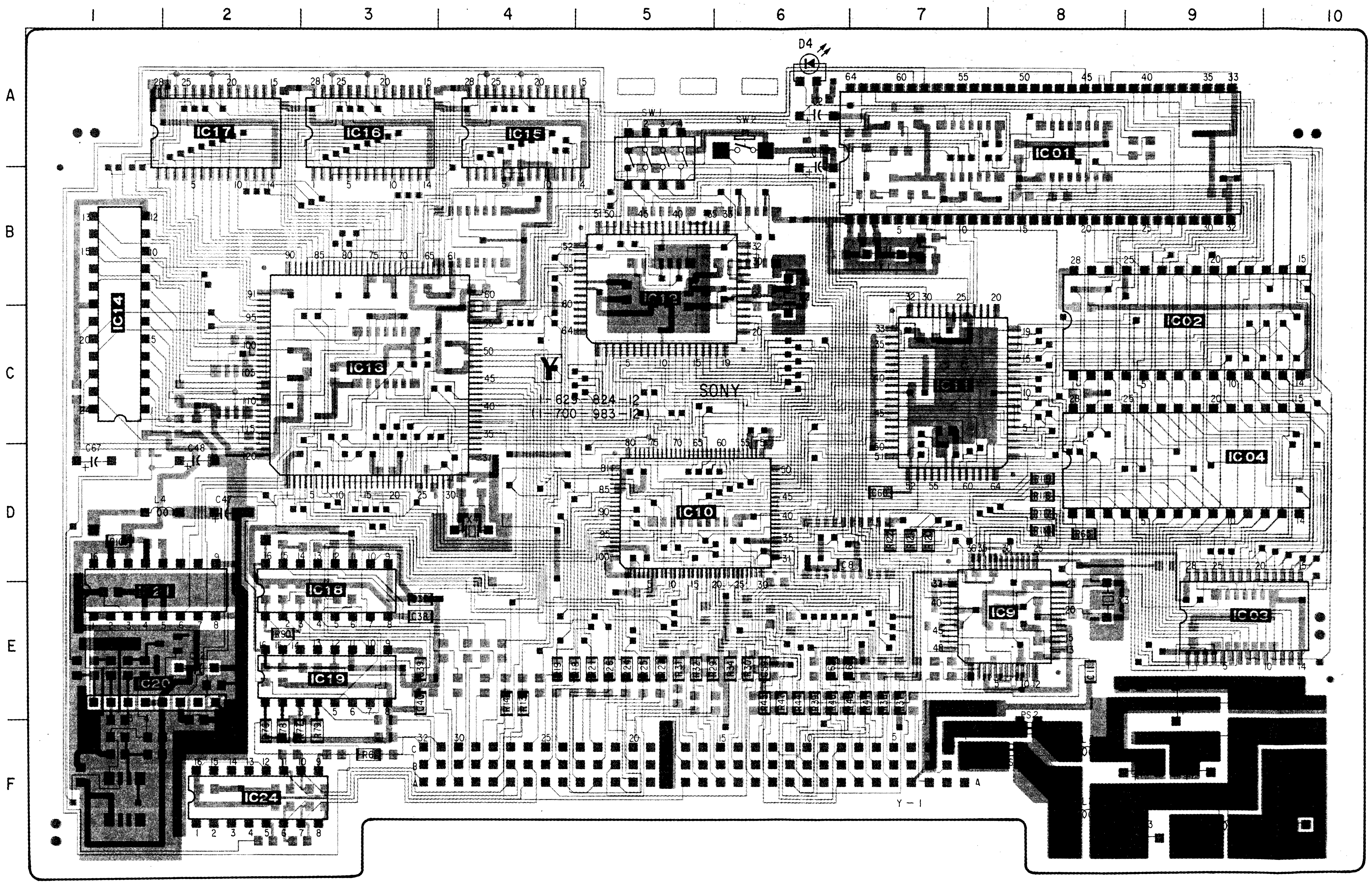

①
PAL 5.5Vp-p(4MHZ)
SECAM 5.5Vp-p(4MHZ)
NTSC3.58 5.5Vp-p(4MHZ)
NTSC4.43 5.5Vp-p(4MHZ)
S-VIDEO 5.5Vp-p(4MHZ)
HDTV 5.5Vp-p(4MHZ)
②
PAL 5 Vp-p(V)
SECAM 5 Vp-p(V)
NTSC3.58 5 Vp-p(V)
NTSC4.43 5 Vp-p(V)
S-VIDEO 5 Vp-p(V)
HDTV 5 Vp-p(V)
③
PAL 5 Vp-p(H)
SECAM 5 Vp-p(H)
NTSC3.58 5 Vp-p(H)
NTSC4.43 5 Vp-p(H)
S-VIDEO 5 Vp-p(H)
HDTV 5 Vp-p(H)
④
PAL 4.8Vp-p(4.098MHZ)
SECAM 4.8Vp-p(4.098MHZ)
NTSC3.58 4.8Vp-p(4.098MHZ)
NTSC4.43 4.8Vp-p(4.098MHZ)
S-VIDEO 4.8Vp-p(4.098MHZ)
HDTV 4.8Vp-p(4.098MHZ)
⑤
PAL 68 Vp-p(16MHZ)
SECAM 68 Vp-p(16MHZ)
NTSC3.58 68 Vp-p(16MHZ)
NTSC4.43 68 Vp-p(16MHZ)
S-VIDEO 68 Vp-p(16MHZ)
HDTV 68 Vp-p(16MHZ)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
IC1 HD64180R1P8 CPU
IC24 MC34051P RS-422 LINE DRIVER/RECEIVER
IC6 TC74HC123F WAIT CONTROL
IC5 MC74HC14AF INVERTER
D3 1S2835 RECTIFICATION
Q1 2SA1162 Q2 2SC2712 RESET PULSE GENERATE
IC2 MBM27C512-25 PROGRAM ROM
IC3 CXK5864BM-12L RAM
IC4 μPD28C64C-20 EEP ROM
IC12 MB671469PF fH, fV DETECT
IC17 CXK3864-042M CHARACTER FONT ROM No.3
IC10 MB670840PF ADDRESS ENCODE/ PARALLEL INTERFACE/ INTERRUPT CONTROL
IC11 MB654842UPF SYNC CONTROL/ CLAMP PULSE GEN.
IC29 TC74HC123F V SYNC DETECT
IC28 MC74HC00AF ADDRESS DECODE for MEMORY
D4 LN25RP LED
Q7 2SC2712 LED DRIVE
IC20 CX23065A DIGITAL PHASE COMP.
IC5 MC74HC14AF INVERTER
D6 1S2835T
IC25 μPC393G2 VOLTAGE COMP.
X1 12.288MHz
X2 16MHz
SW1 SW2
5V 5.7V


5
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
IC17
CXK3864-042M
CHARACTER FONT ROM No. 3
IC15
CXK3864-040M
CHARACTER FONT ROM No. 1
IC16
CXK3864-041M
CHARACTER FONT ROM No. 2
IC14
CXK5814P-45L
CHARACTER DISPLAY RAM
IC13
MB605195
CHARACTER & TEST PATTERN GEN.
IC8
MC74HC541F
ADDRESS BUS BUFF
IC7
MC74HC541F
DATA BUS BUFF
D1
V19EF1
+5V RECT
D2
V19EF1
-5V RECT
IC6
TC74HC123F
H SYNC REFORM
IC5
MC74HC14AF
PULSE REFORM
IC26
MC74HC00AF
VD SHIFT for CHARACTER GEN.
IC27
SN74HC107NS
VD SHIFT for CHARACTER GEN.
D5
1S2835T
IC23
MC74F00M
BUFF
IC18
MC10124L
CHARACTER/TEST PATTERN SIGNAL TTL >ECL TRANSLATION
IC19
MC10124L
CHARACTER SIGNAL TTL >ECL TRANSLATION
IC9
MB8855-1293N
SIRCS DECODE
IC20
CX23065A
DIGITAL PHASE COMP.
Q6
2SC2712
CURRENT BUFF
IC22
μPC393G2
WINDOW COMP.
D6
1S2835T
IC25
μPC393G2
VOLTAGE COMP.
IC23
MC74F00M
CLOCK SELECT
IC21
SN74S124N
DUAL VOLTAGE CONTROLLED OSC
IC23
MC74F00M
BUFF
Q5
2SC2712
SIRCS IC RESET
Q3
2SA1162
POWER CONTROL DRIVE
Q4
2SA1162
POWER DOWN DETECT
X4
14.098MHz
X3
4MHz
Y-1
TO DM BOARD
DM-1
(CPU,MEMORY) Y

Y [CPU, MEMORY]

– Y BOARD – (COMPONENT SIDE)


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
D4
SW1
SW2
IC17
IC16
IC15
IC14
IC13
IC12
IC11
IC10
IC01
IC02
IC04
IC03
IC9
IC18
IC19
IC20
IC21
IC24
Y
1-625-924-12
(1-700-983-12)
SONY
C67
C48
C47
L4
PS2
Y-1

Y BOARD

IC	CON-DUCTOR SIDE	COM-PONENT SIDE
IC1		A - 8
IC2		C - 9
IC3		E - 9
IC4		D - 9
IC5	A - 3	
IC6	A - 3	
IC7	D - 4	
IC8	D - 5	
IC9		E - 5
IC10		D - 8
IC11		C - 7
IC12		B - 5
IC13		C - 3
IC14		B - 1
IC15		A - 4
IC16		A - 3
IC17		A - 2
IC18		E - 3
IC19		E - 3
IC20		E - 1
IC21		E - 1
IC22	C - 9	
IC23	C - 8	
IC24		F - 2
IC25	F - 10	
IC26	B - 5	
IC27	B - 6	
IC28	E - 1	
IC29	B - 7	

TRANSISTOR	CON-DUCTOR SIDE	COM-PONENT SIDE
Q1	B - 4	
Q2	A - 4	
Q3	E - 3	
Q4	E - 4	
Q5	E - 3	
Q6	C - 9	
Q7	A - 4	

DIODE	CON-DUCTOR SIDE	COM-PONENT SIDE
D1		F - 9
D2		E - 9
D3	B - 4	
D4	A - 7	
D5	D - 7	
D6	E - 9	

COM-
ONENT
SIDE
A - 8
C - 9
E - 9
D - 9

E - 5
D - 8
C - 7
B - 5
C - 3
B - 1
A - 4
A - 3
A - 2
E - 3
E - 3
E - 1
E - 1

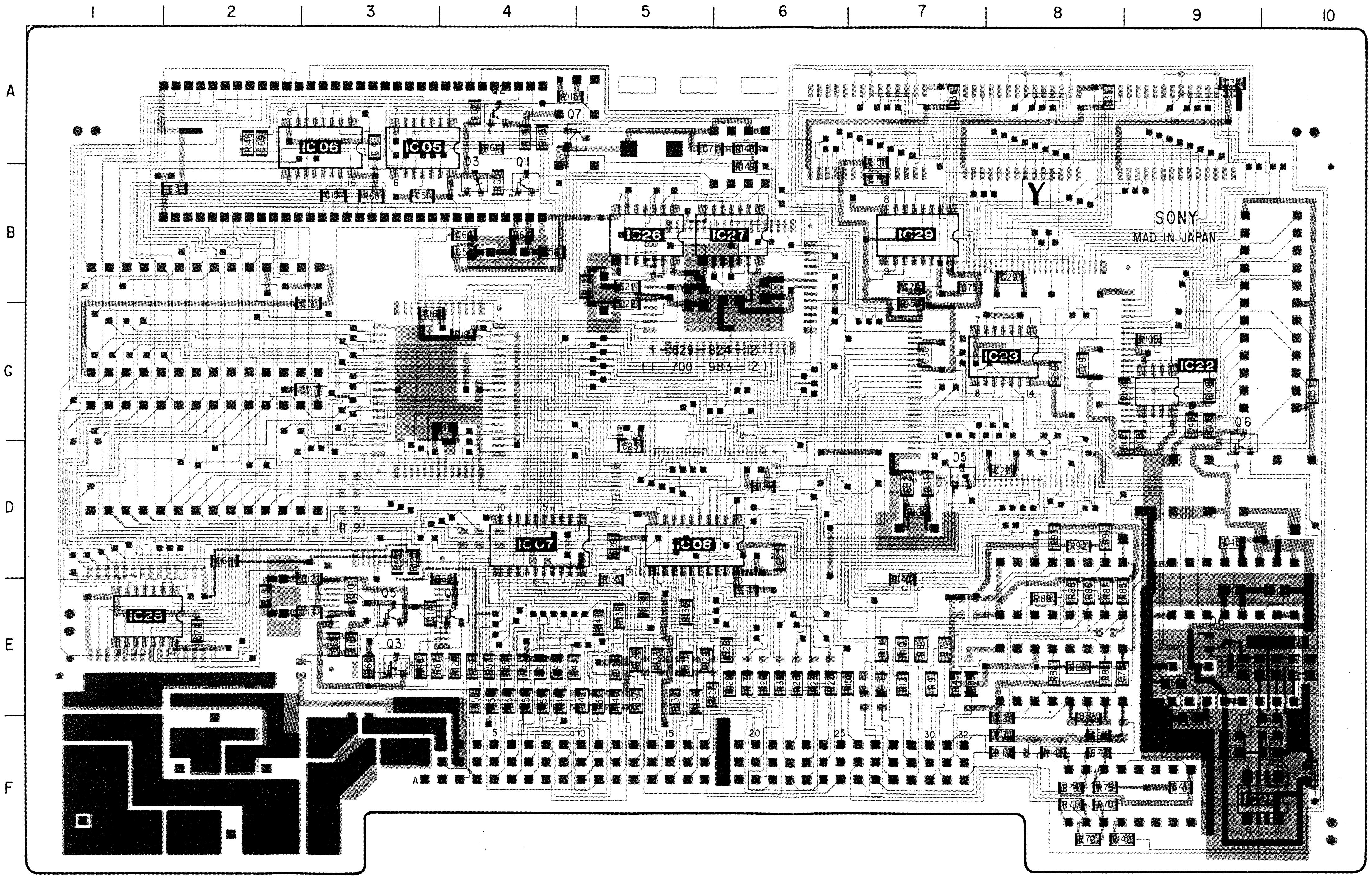
F - 2

OR

COM-
ONENT
SIDE

COM-
ONENT
SIDE
F - 9
E - 9

(CONDUCTOR SIDE)


1
2
3
4
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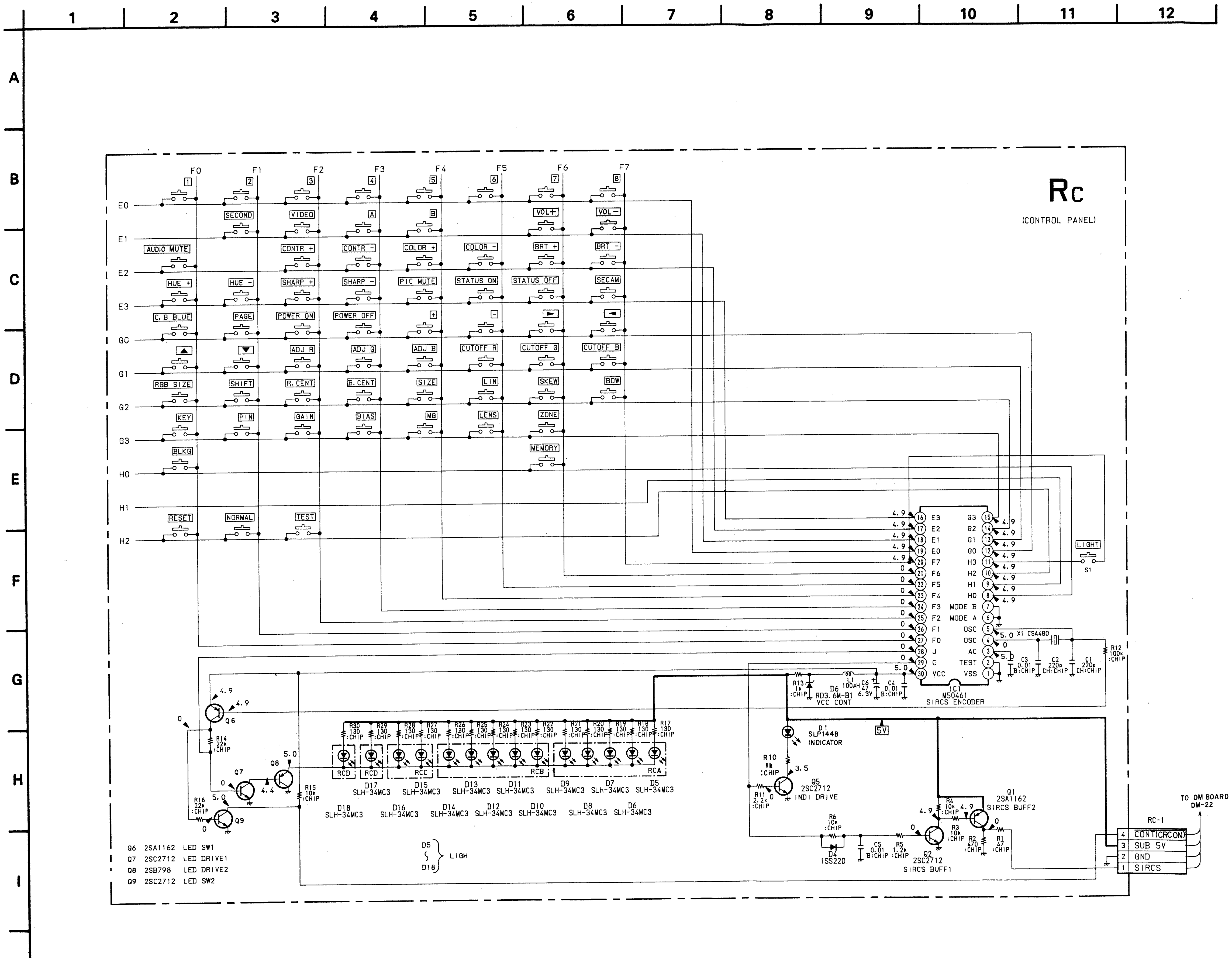
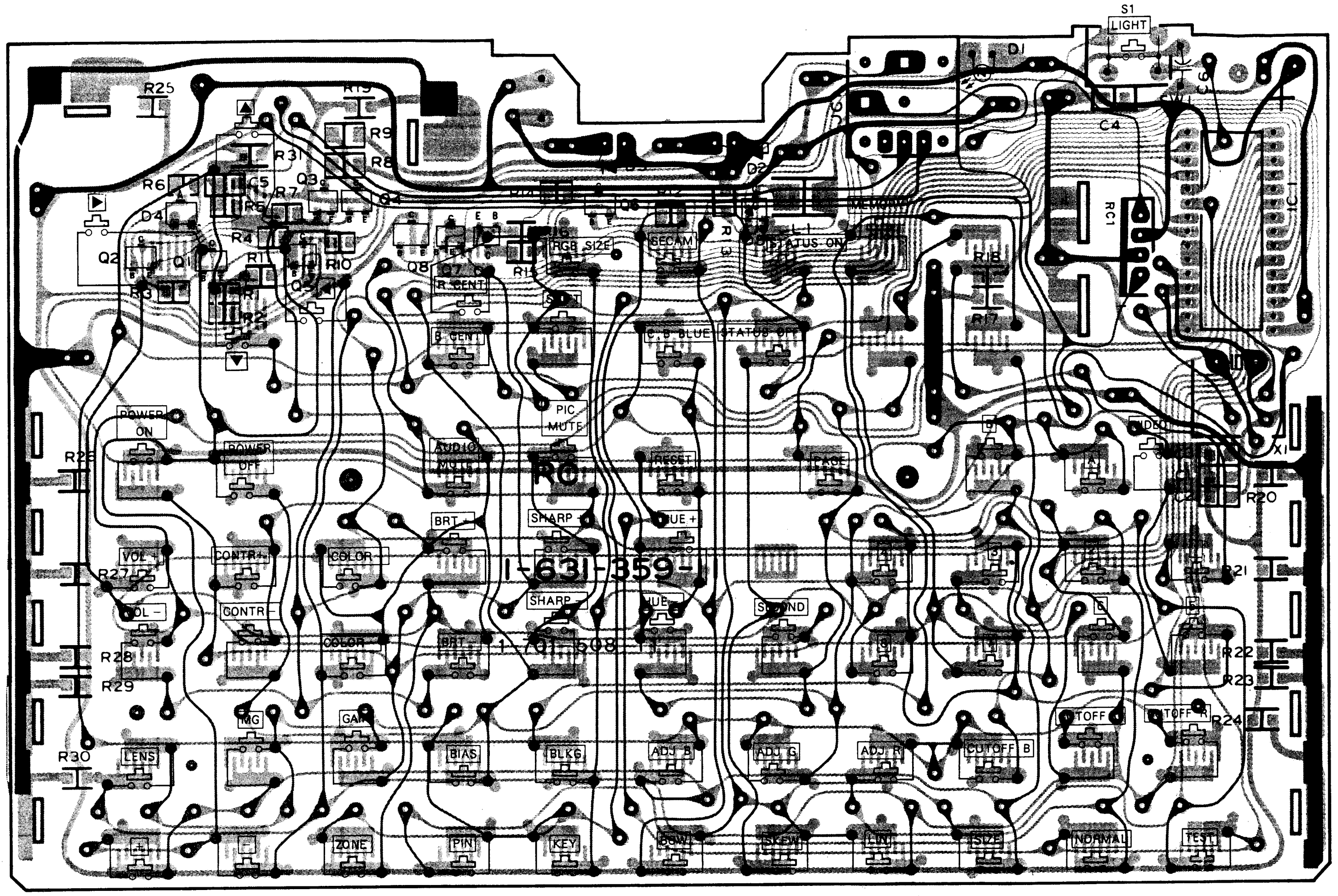
6
7
8
9
10
A
B
C
D
E
F
IC06
IC05
IC26
IC27
IC29
IC23
IC22
IC07
IC08
IC28
IC25
Q1
Q2
Q3
Q5
Q6
Q7
D3
D5
D6
Y
SONY
MADE IN JAPAN
1-629-824-12
(1-700-983-12)

• ▨ : Pattern from the side which enables seeing.
• ▨ : Pattern of the rear side.

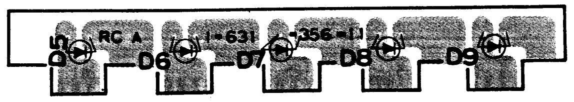

Rc
(CONTROL PANEL)
F0 F1 F2 F3 F4 F5 F6 F7
E0 E1 E2 E3 G0 G1 G2 G3 H0 H1 H2
SECOND
VIDEO
A
B
VOL+
VOL−
AUDIO MUTE
CONTR +
CONTR −
COLOR +
COLOR −
BRT +
BRT −
HUE +
HUE −
SHARP +
SHARP −
PIC MUTE
STATUS ON
STATUS OFF
SECAM
C. B BLUE
PAGE
POWER ON
POWER OFF
ADJ R
ADJ G
ADJ B
CUTOFF R
CUTOFF G
CUTOFF B
RGB SIZE
SHIFT
R. CENT
B. CENT
SIZE
LIN
SKEW
BOW
KEY
PIN
GAIN
BIAS
MG
LENS
ZONE
MEMORY
BLKG
RESET
NORMAL
TEST
LIGHT
S1
IC1
M50461
SIRCS ENCODER
X1 CSA480
D1 SLP144B INDICATOR
D6 RD3. 6M-B1 VCC CONT
L1 100μH
Q1 2SA1162 SIRCS BUFF2
Q2 2SC2712 SIRCS BUFF1
Q5 2SC2712 INDI DRIVE
D4 1SS220
5V
RC-1
4 CONT(CRCON)
3 SUB 5V
2 GND
1 SIRCS
TO DM BOARD DM-22
D5 – D18 LIGH
SLH-34MC3
Q6 2SA1162 LED SW1
Q7 2SC2712 LED DRIVE1
Q8 2SB798 LED DRIVE2
Q9 2SC2712 LED SW2

RCA **RCB** **RCC** **RCD** **RC** [CONTROL PANEL]

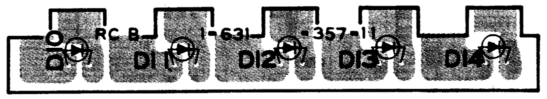
– RC BOARD –


S1
LIGHT
R25
R15
R9
R8
R31
R6
C5
Q3
R7
Q4
D4
R4
Q2
Q1
R10
R3
Q8
D2
Q6
RGB SIZE
SECAM
STATUS ON
R CENT
R13
R14
SPLIT
B CENT
E B BLUE
STATUS OFF
C4
RC1
IC1
R18
R17
D1
X1
R20
R21
R22
R23
R24
PIC MUTE
POWER ON
POWER OFF
R26
AUDIO MUTE
RESET
PAGE
VIDEO
BRT +
SHARP +
HUE +
VOL +
CONTR +
COLOR
R27
1-631-359-11
VOL -
CONTR -
SHARP -
HUE -
SECOND
R28
R29
COLOR
BRT -
1-701-508-11
GAIN
CUTOFF
R30
LENS
IMG
BIAS
BLKG
ADJ B
ADJ G
ADJ R
CUTOFF B
ZONE
PINT
KEY
SIZE
NORMAL
TEST
RC

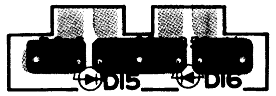
– RCA BOARD –


RC A
1-631-356-11
D5
D6
D7
D8
D9

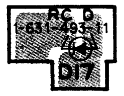
– RCB BOARD –

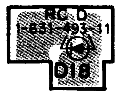

RC B
1-631-357-11
D10
D11
D12
D13
D14

– RCC BOARD –



– RCD BOARD –

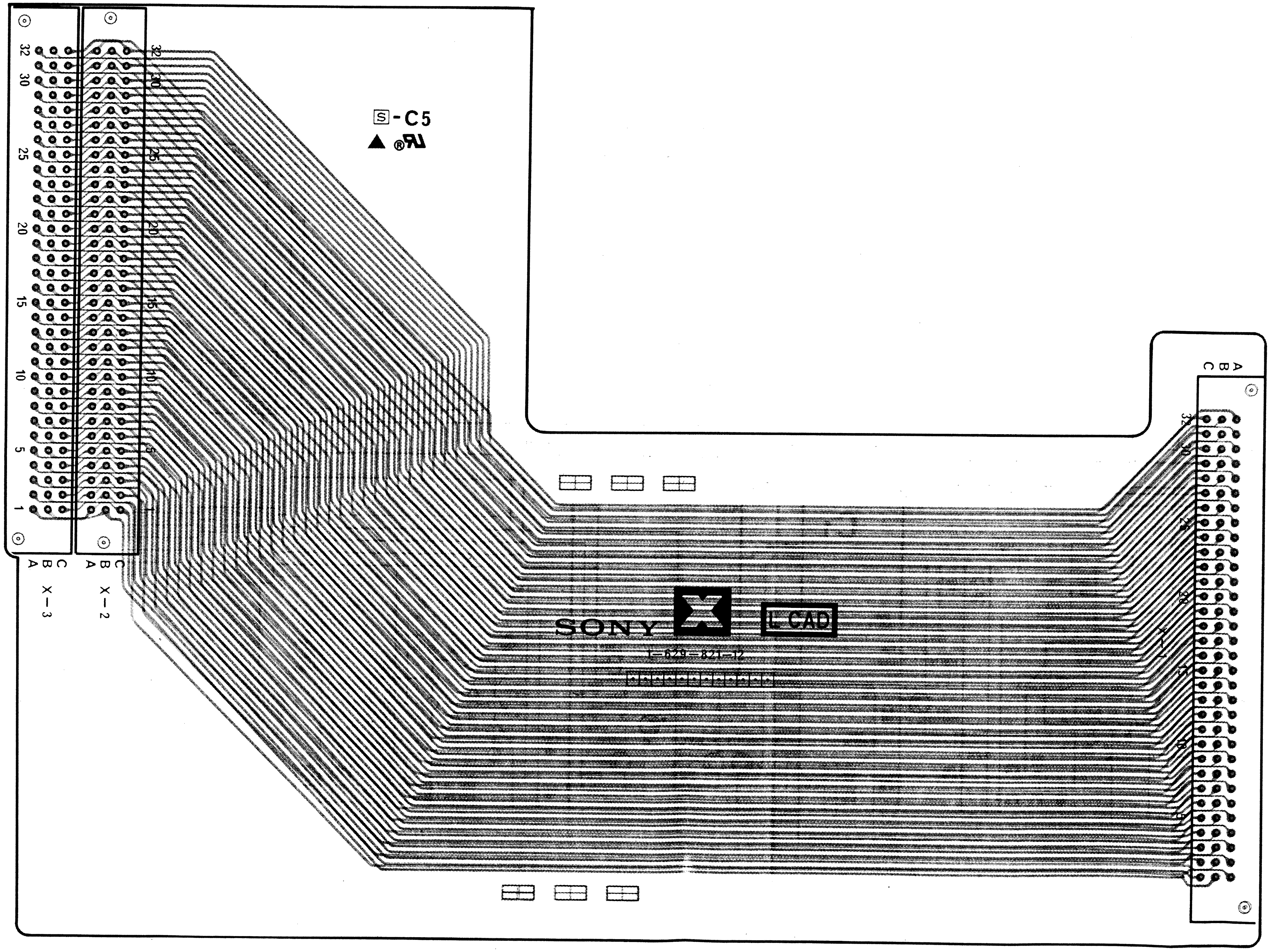

RC D
1-631-493-11
D17


RC D
1-631-493-11
D18

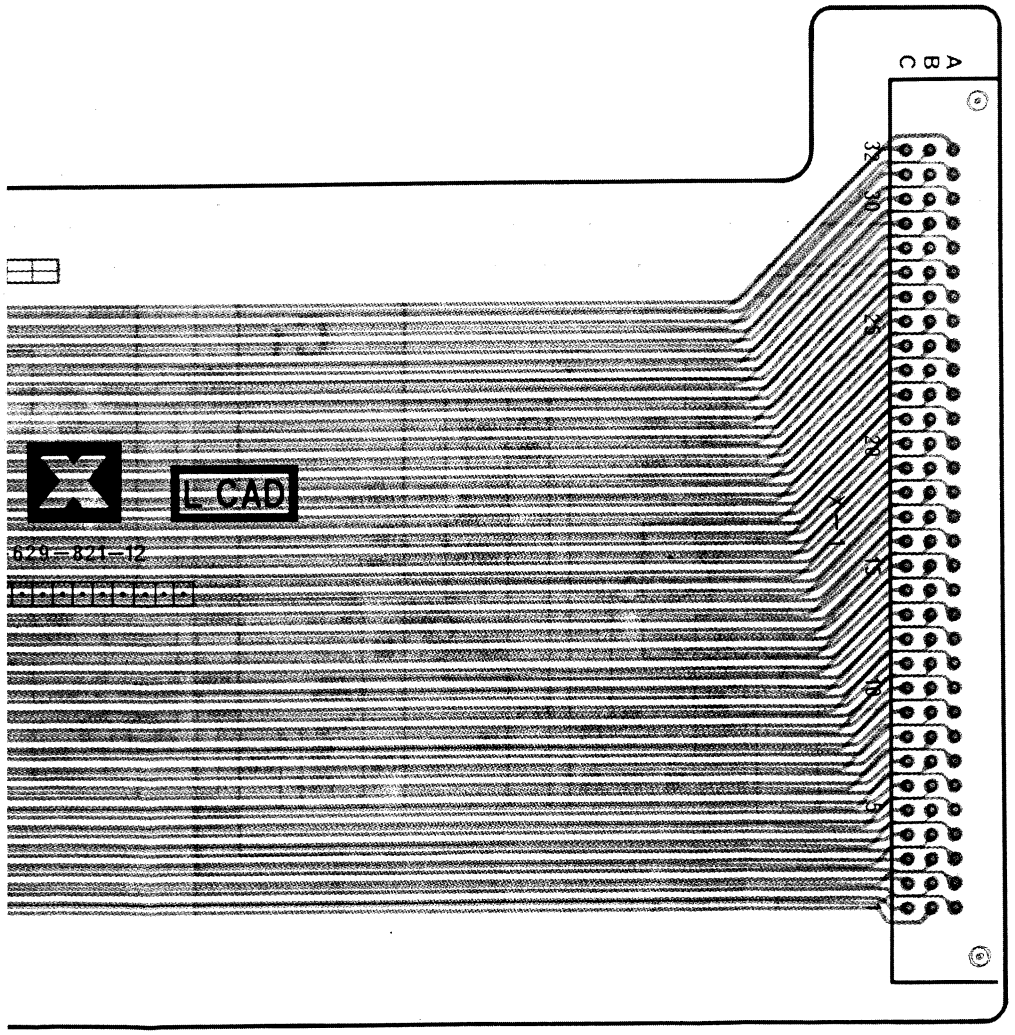
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

X [EXTENSION BOARD]

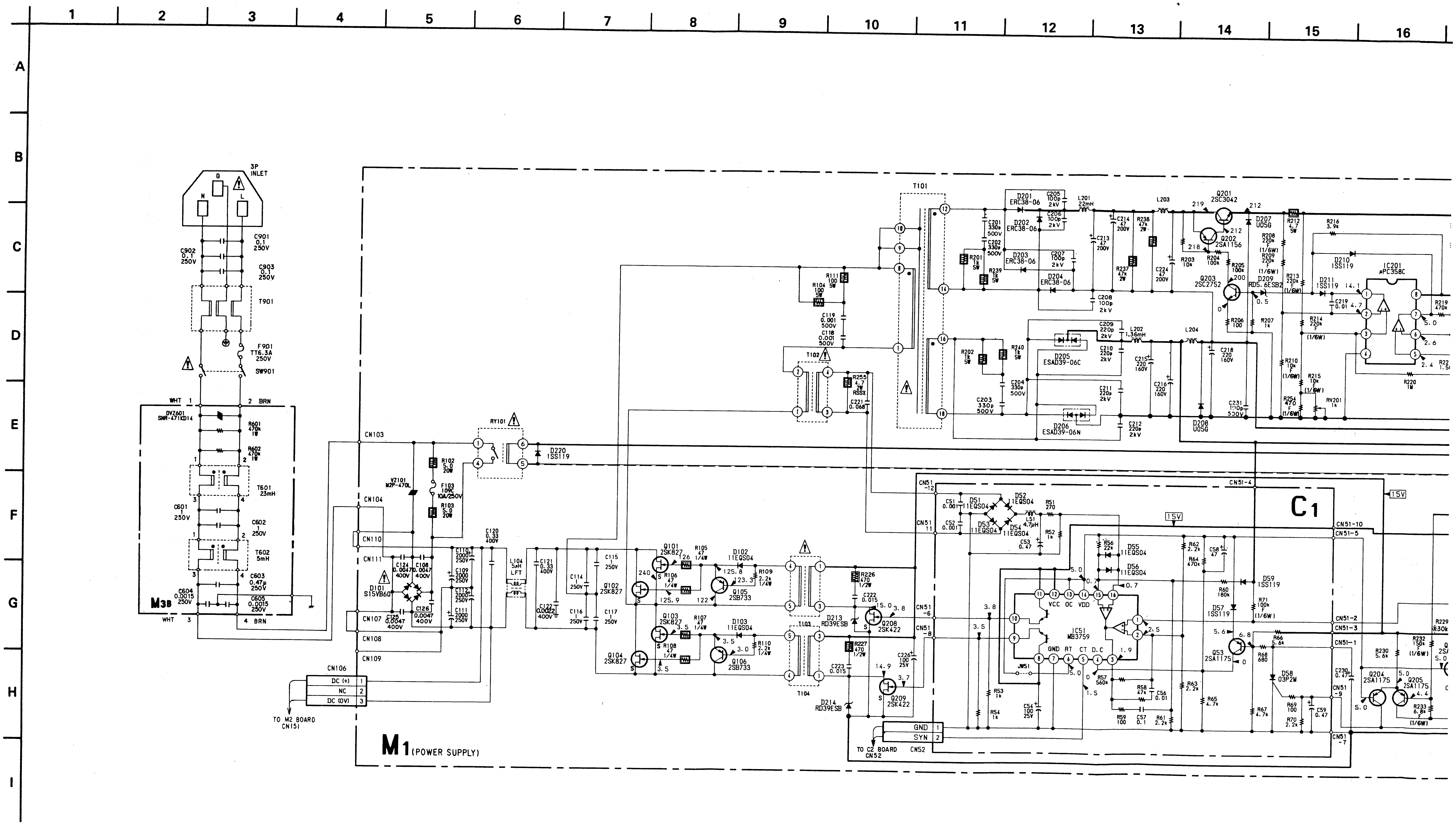
– X BOARD –


S-C5
▲ ®UL
SONY
X
L CAD
1-629-821-12
X-3
X-2
X-1
32
30
25
20
15
10
5
1
A
B
C

- ▨ : Pattern from the side which enables
- ▨ : Pattern of the rear side.


A
B
C
32
30
25
20
X-1
15
10
5
L CAD
629-821-12

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.


1
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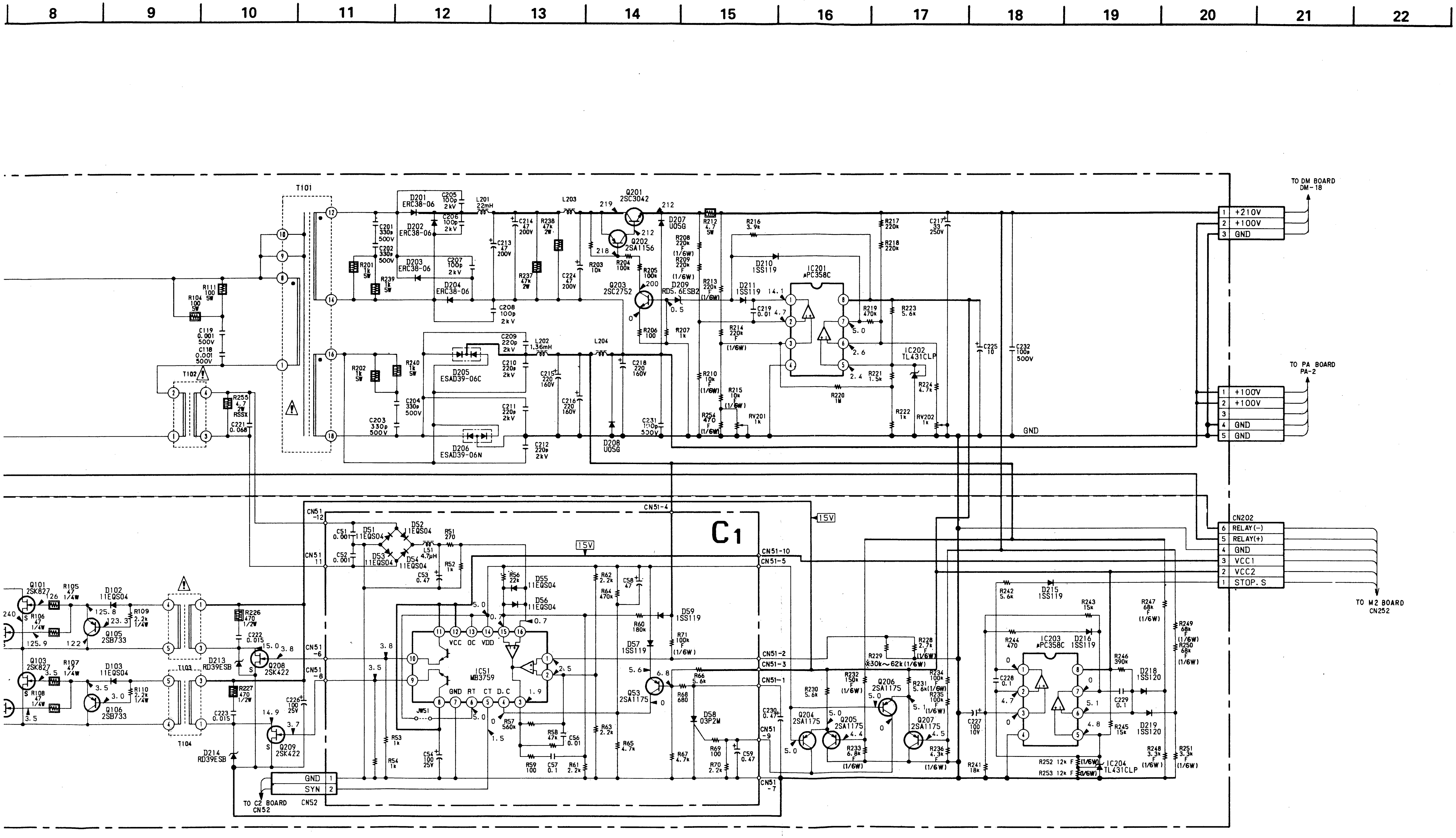
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
3P INLET
G
N
L
C901 0.1 250V
C902 0.1 250V
C903 0.1 250V
T901
F901 TT6.3A 250V
SW901
WHT 1
2 BRN
DVZ601 SNR-471KD14
R601 470k 1W
R602 470k 1W
T601 23mH
C601 1 250V
C602 1 250V
T602 5mH
C603 0.47μ 250V
C604 0.0015 250V
C605 0.0015 250V
M3B
WHT 3
4 BRN
CN103
CN104
CN110
CN111
CN107
CN108
CN109
CN106
DC (+) 1
NC 2
DC (0V) 3
TO M2 BOARD CN151
RY101
D220 1SS119
VZ101 M2F-470L
R102 5.0 20W
F103 109C 10A/250V
R103 5.0 20W
D101 S15VB60
C124 0.0047 400V
C108 0.0047 400V
C125 0.0047 400V
C126 0.0047 400V
C110 2000 250V
C109 2000 250V
C112 2000 250V
C111 2000 250V
C120 0.33 400V
L104 5mH LFT
C121 0.33 400V
C122 0.0022 400V
C114 1 250V
C115 1 250V
C116 1 250V
C117 1 250V
Q101 2SK827
Q102 2SK827
Q103 2SK827
Q104 2SK827
R105 47 1/4W
R106 47 1/4W
R107 47 1/4W
R108 47 1/4W
D102 11EQS04
D103 11EQS04
Q105 2SB733
Q106 2SB733
R109 2.2k 1/4W
R110 2.2k 1/4W
T103
T104
R226 470 1/2W
R227 470 1/2W
C222 0.015
C223 0.015
D213 RD39ESB
D214 RD39ESB
Q208 2SK422
Q209 2SK422
C226 100 25V
T101
T102
R111 100 5W
R104 100 5W
C119 0.001 500V
C118 0.001 500V
R255 4.7 5W RSSX
C221 0.068
D201 ERC38-06
D202 ERC38-06
D203 ERC38-06
D204 ERC38-06
C205 100p 2kV
C206 100p 2kV
C207 100p 2kV
C208 100p 2kV
C201 330p 500V
C202 330p 500V
R201 1k 5W
R239 1k 5W
L201 22mH
C213 47 200V
C214 47 200V
R238 47k 2W
R237 47k 2W
L203
C224 47 200V
Q201 2SC3042
Q202 2SA1156
Q203 2SC2752
R203 10k
R204 100k
R205 100k
R206 100
R207 1k
D207 U05G
R208 220k F (1/6W)
R209 220k F (1/6W)
D209 RD5.6ESB2
R212 4.7 5W
R213 220k F (1/6W)
R216 3.9k
D210 1SS119
D211 1SS119
IC201 μPC358C
R214 220k F (1/6W)
R219 470k
C219 0.01
R202 1k 5W
R240 1k 5W
C209 220p 2kV
C210 220p 2kV
C211 220p 2kV
C212 220p 2kV
L202 1.36mH
L204
D205 ESAD39-06C
D206 ESAD39-06N
C215 220 160V
C216 220 160V
C218 220 160V
C204 330p 500V
C203 330p 500V
D208 U05G
C231 100p 500V
R210 10k F (1/6W)
R215 10k (1/6W)
R254 470 F (1/6W)
RV201 1k
R220 1M
CN51-12
CN51-11
CN51-6
CN51-8
CN51-4
CN51-10
CN51-5
CN51-2
CN51-3
CN51-1
CN51-9
CN51-7
15V
C1
C51 0.001
C52 0.001
D51 11EQS04
D52 11EQS04
D53 11EQS04
D54 11EQS04
R51 270
L51 4.7μH
R52 1k
C53 0.47
R56 22k
D55 11EQS04
D56 11EQS04
R62 2.2k
R64 470k
C58 47
D59 1SS119
R60 180k
D57 1SS119
R71 100k F (1/6W)
IC51 MB3759
VCC
OC
VDD
GND
RT
CT
D.C
JW51
R53 1k
R54 1k
C54 100 25V
R57 560k
R58 47k
C56 0.01
R59 100
C57 0.1
R61 2.2k
R63 2.2k
R65 4.7k
Q53 2SA1175
R66 5.6k
R68 680
D58 03P2M
R67 4.7k
R69 100
R70 2.2k
C59 0.47
C230 0.47
Q204 2SA1175
Q205 2SA1175
R230 5.6k
R232 150k F (1/6W)
R233 6.8k F (1/6W)
R229 330k
GND 1
SYN 2
TO C2 BOARD CN52
CN52
M1 (POWER SUPPLY)


8
9
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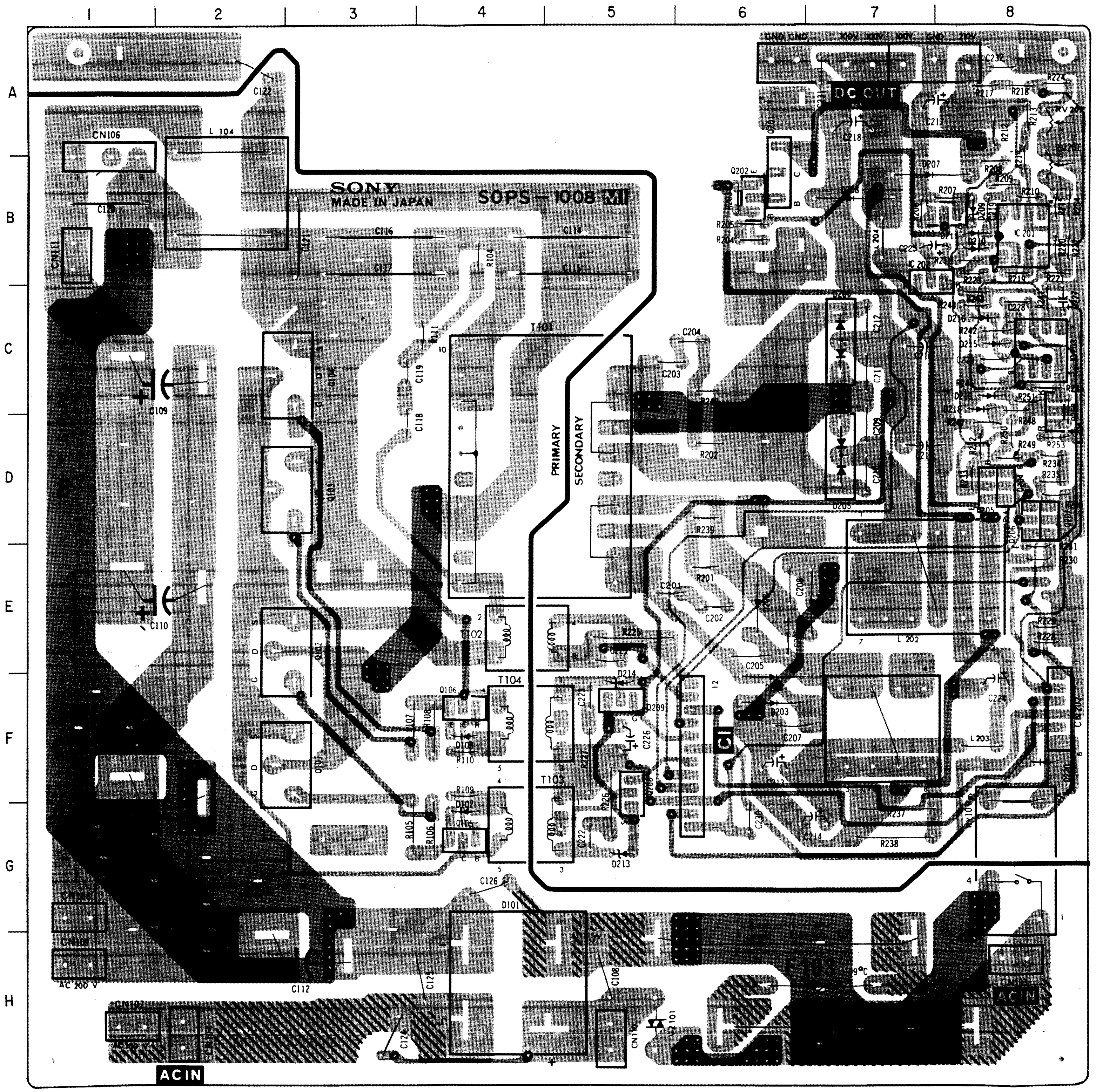
12
13
14
15
16
17
18
19
20
21
22
T101
T102
T103
T104
C1
TO DM BOARD DM-18
1 +210V
2 +100V
3 GND
TO PA BOARD PA-2
1 +100V
2 +100V
3
4 GND
5 GND
CN202
6 RELAY(-)
5 RELAY(+)
4 GND
3 VCC1
2 VCC2
1 STOP. S
TO M2 BOARD CN252
TO C2 BOARD CN52
CN52
GND 1
SYN 2
15V
GND
CN51-4
CN51-12
CN51 11
CN51-10
CN51-5
CN51-2
CN51-3
CN51-1
CN51-6
CN51-8
CN51-9
CN51-7
Q201 2SC3042
Q202 2SA1156
Q203 2SC2752
D201 ERC38-06
D202 ERC38-06
D203 ERC38-06
D204 ERC38-06
D205 ESAD39-06C
D206 ESAD39-06N
D207 U05G
D208 U05G
D209 RD5.6ESB2
D210 1SS119
D211 1SS119
IC201 μPC358C
IC202 TL431CLP
L201 22mH
L202 1.36mH
L203
L204
RV201 1k
RV202 1k
IC51 MB3759
VCC OC VDD
GND RT CT D.C
D51 11EQS04
D52 11EQS04
D53 11EQS04
D54 11EQS04
D55 11EQS04
D56 11EQS04
D57 1SS119
D58 03P2M
D59 1SS119
LS1 4.7μH
Q53 2SA1175
Q101 2SK827
Q103 2SK827
Q105 2SB733
Q106 2SB733
D102 11EQS04
D103 11EQS04
Q208 2SK422
Q209 2SK422
D213 RD39ESB
D214 RD39ESB
Q204 2SA1175
Q205 2SA1175
Q206 2SA1175
Q207 2SA1175
IC203 μPC358C
IC204 TL431CLP
D215 1SS119
D216 1SS119
D218 1SS120
D219 1SS120
R229 30k~62k (1/6W)
JW51

M1	IC201	μ PC358	CMP
	202	TL431C	2.5V REF VOLT
	203	μ PC358C	AMP
	204	TL431C	5.0V REF VOLT
	Q101	2SK827	CONV
	102	2SK827	CONV
	103	2SK827	CONV
	104	2SK827	CONV
	105	2SB733	SPEED UP
	106	2SB733	SPEED UP
	201	2SC3042	210V REG
	202	2SA1156	210V REG
	203	2SC2752	210V REG
	204	2SA1175	0V
	205	2SA1175	0V
	206	2SA1175	0V
	207	2SA1175	0V
	208	2SK422	DRIVE
	209	2SK422	DRIVE
	D101	S15VB60	AC RECT
	102	11EQS04	RECT
	103	11EQS04	RECT
	201	ERC33-06	210V RECT
	202	ERC33-06	210V RECT
	203	ERC33-06	210V RECT
	204	ERC33-06	210V RECT
	205	ESAD39-06C	100V RECT
	206	ESAD39-06N	100V RECT
	207	U05G	CLAMP
	208	U05G	CLAMP
	209	RD5.6ESB2	CORRECT
	210	1SS119	DC SHIFT
	211	1SS119	DC SHIFT
	213	RD39ESB	CLAMP
	214	RD39ESB	CLAMP
	215	1SS119	DC SHIFT
	216	1SS119	DC SHIFT
	218	1SS119	PROT
	219	1SS119	PROT
	220	1SS119	PROT

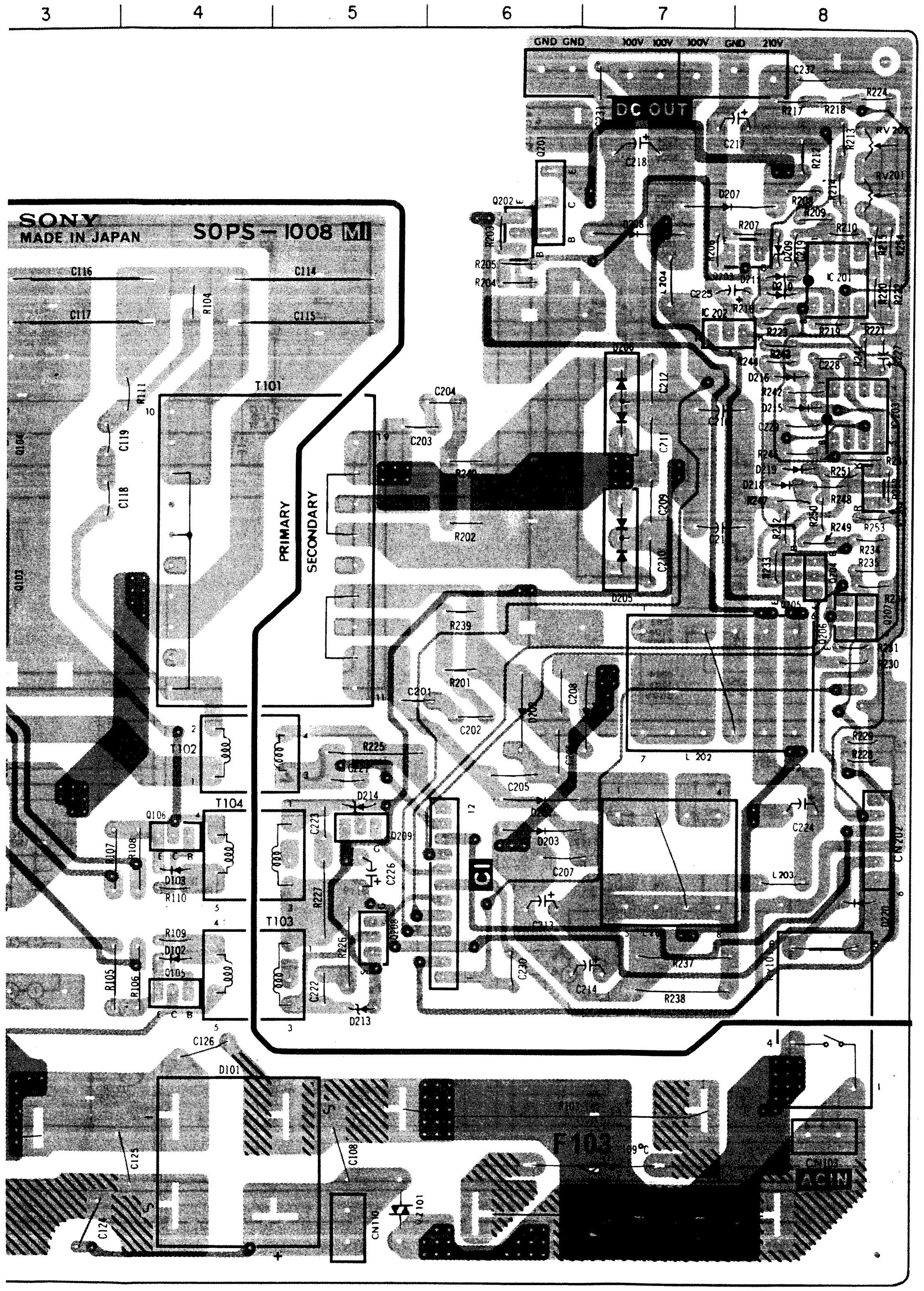
C1	IC051	MB3759	CONTROL
	Q053	2SA1175	AMP
	D051	11EQS04	RECT
	052	11EQS04	RECT
	053	11EQS04	RECT
	054	11EQS04	RECT
	055	11EQS04	CLAMP
	056	11EQS04	CLAMP
	057	1SS119	PROT
	058	03P2M	OFF
	059	1SS119	PROT

– M1 BOARD –


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
SONY
MADE IN JAPAN
SOPS-1008 M1
DC OUT
GND GND 100V 100V 100V GND 210V
PRIMARY
SECONDARY
T101
T102
T103
T104
L104
L202
L203
CN106
CN111
CN107
CN110
AC 200 V
AC IN
ACIN
C109
C110
C112
C116
C117
C114
C115
C118
C119
C120
C121
C122
C125
C126
C108
D101
IC201
Q202
R239
R201
R202
C201
C202
C203
C204
C205
C207
C209
C211
C214
C218
C221
C222
C224
C226
C228
C232
R224
R217
R218
R207
R209
R210
R225
R226
R227
R237
R238
R251
R248
R249
R234
R235
D205
D206
D207
D209
D213
D214
D215
D216
D218
D219
RV201
RV202
C1

M1 BOARD	
IC	
IC201	B - 8
IC202	B - 7
IC203	C - 8
IC204	D - 8
TRANSISTOR	
Q101	F - 3
Q102	E - 3
Q103	D - 3
Q104	C - 3
Q105	G - 4
Q106	F - 4
Q201	B - 6
Q202	B - 6
Q203	B - 8
Q204	D - 8
Q205	D - 8
Q206	D - 8
Q207	D - 8
Q208	F - 5
Q209	F - 5
DIODE	
D101	H - 4
D102	G - 4
D103	F - 4
D201	F - 6
D202	E - 6
D203	F - 6
D204	E - 7
D205	D - 7
D206	C - 7
D207	B - 7
D208	B - 7
D209	B - 8
D210	B - 8
D211	B - 8
D213	G - 5
D214	F - 5
D215	C - 8
D216	C - 8
D218	C - 8
D219	C - 8
D220	F - 8
ADJUSTING ELEMENT	
RV201	B - 8
RV202	A - 8

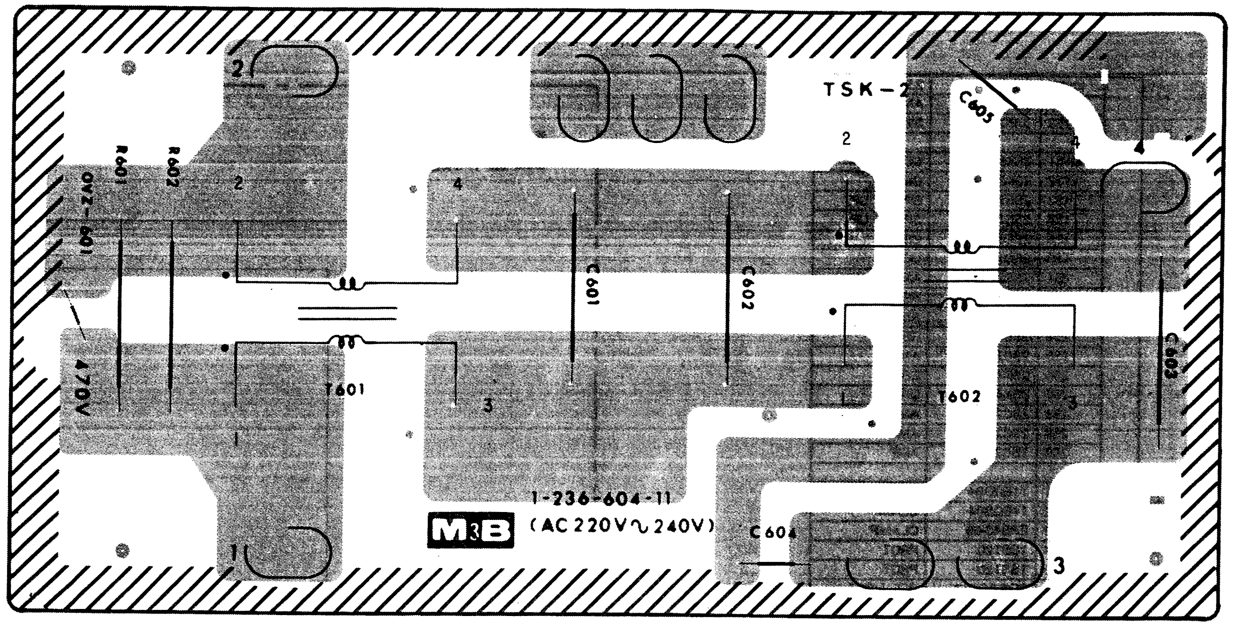
M1 M3B C1 [POWER SUPPLY]


3
4
5
6
7
8
GND GND
100V 100V 100V GND 210V
DC OUT
SONY
MADE IN JAPAN
SOPS-1008 M1
PRIMARY
SECONDARY
T101
T102
T103
T104
C116
C117
C114
C115
R104
R111
C119
C118
Q101
Q102
Q103
Q104
Q105
Q106
Q201
Q202
IC201
IC202
C203
C204
R202
R239
R201
C201
C202
C205
C207
C208
C214
C218
C219
C224
C225
R237
R238
L202
L203
D101
D102
D103
D213
D214
R105
R106
R107
R108
R109
R110
C125
C126
C108
F103
AC IN
CN101
CN110
CN201
RV201
RV202

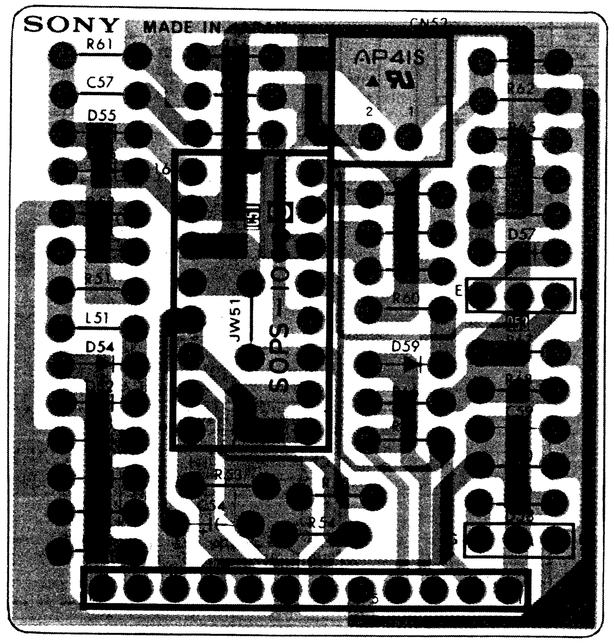
M1 BOARD

IC	
IC201	B - 8
IC202	B - 7
IC203	C - 8
IC204	D - 8
TRANSISTOR	
Q101	F - 3
Q102	E - 3
Q103	D - 3
Q104	C - 3
Q105	G - 4
Q106	F - 4
Q201	B - 6
Q202	B - 6
Q203	B - 8
Q204	D - 8
Q205	D - 8
Q206	D - 8
Q207	D - 8
Q208	F - 5
Q209	F - 5
DIODE	
D101	H - 4
D102	G - 4
D103	F - 4
D201	F - 6
D202	E - 6
D203	F - 6
D204	E - 7
D205	D - 7
D206	C - 7
D207	B - 7
D208	B - 7
D209	B - 8
D210	B - 8
D211	B - 8
D213	G - 5
D214	F - 5
D215	C - 8
D216	C - 8
D218	C - 8
D219	C - 8
D220	F - 8
ADJUSTING ELEMENT	
RV201	B - 8
RV202	A - 8

– M3B BOARD –


TSK-2
C605
R601
R602
OZ-601
470V
T601
T602
C601
C602
C603
C604
1-236-604-11
M3B
(AC 220V∿240V)
1
2
3
4

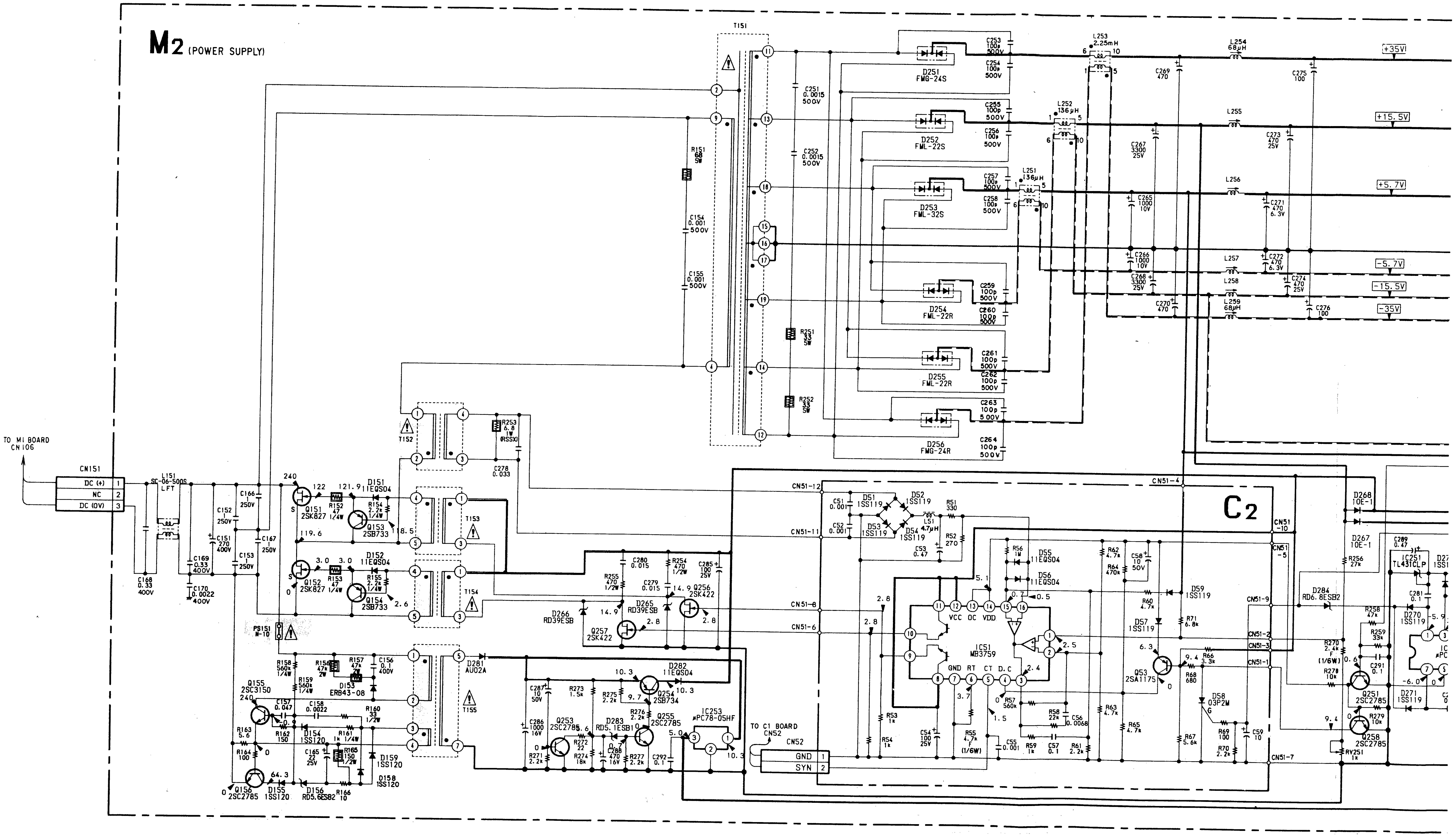
– C1 BOARD –

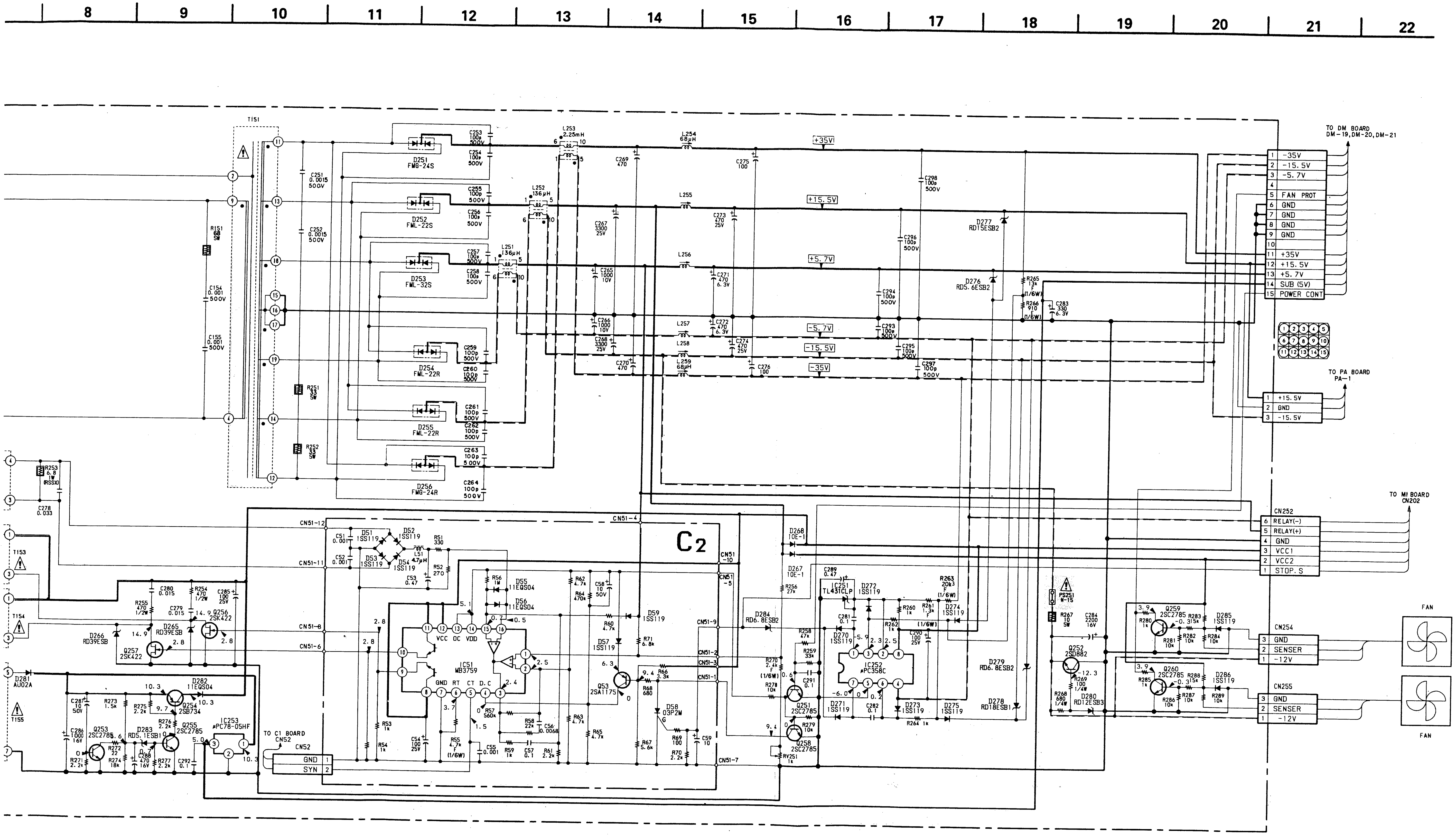

SONY
MADE IN JAPAN
CN52
AP41S
R61
C57
D55
L51
D54
D59
D57
JW51

- ▩ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

M2	IC251	TL431C	2.5V REF
	252	μ PC358C	AMP
	253	μ PC78-05H	5V REG
	Q151	2SK827	CONV
	152	2SK827	CONV
	153	2SB733	SPEED UP
	154	2SB733	SPEED UP
	155	2SC3150	CONV
	156	2SC2785	OC
	251	2SC2785	AMP
	252	2SD882	REG
	253	2SC2785	AMP
	254	2SB734	REG
	255	2SC2785	AMP
	256	2SK422	DRIVE
	257	2SK422	DRIVE
	258	2SC2785	AMP
	259	2SC2785	AMP
	260	2SC2785	AMP
	D151	11EQS04	CLAMP
	152	11EQS04	CLAMP
	153	ERB43-08	CLAMP
	154	1SS120	PROT
	155	1SS120	PROT
	156	RD5.6ESB2	REF VOLT
	158	1SS120	RECT
	159	1SS120	RECT
	251	FMG-24S	35V RECT
	252	FML-22S	15.5V RECT
	253	FML-32S	5.7V RECT
	254	FML-22R	− 5.7V RECT
	255	FML-22R	− 15.5V RECT
	256	FMG-24R	− 35V RECT
	265	RD39ESB	CLAMP
	266	RD39ESB	CLAMP
	267	10E-1	PROT
	268	10E-1	PROT
	270	1SS119	DC SHIFT
	271	1SS119	DC SHIFT
	272	1SS119	PROT
	273	1SS119	PROT
	274	1SS119	PROT
	275	1SS119	PROT
	276	RD5.6ESB2	0V
	277	RD15ESB2	0V
	278	RD18ESB1	0V
	279	RD6.8ESB2	0V
	280	RD12ESB2	REF VOLT
	281	AU02A	RECT
	282	11EQS04	PROT
	283	RD5.1ESB1	DC SHIFT
	284	RD6.8ESB2	CLAMP
	285	1SS119	PROT
	286	1SS119	PROT

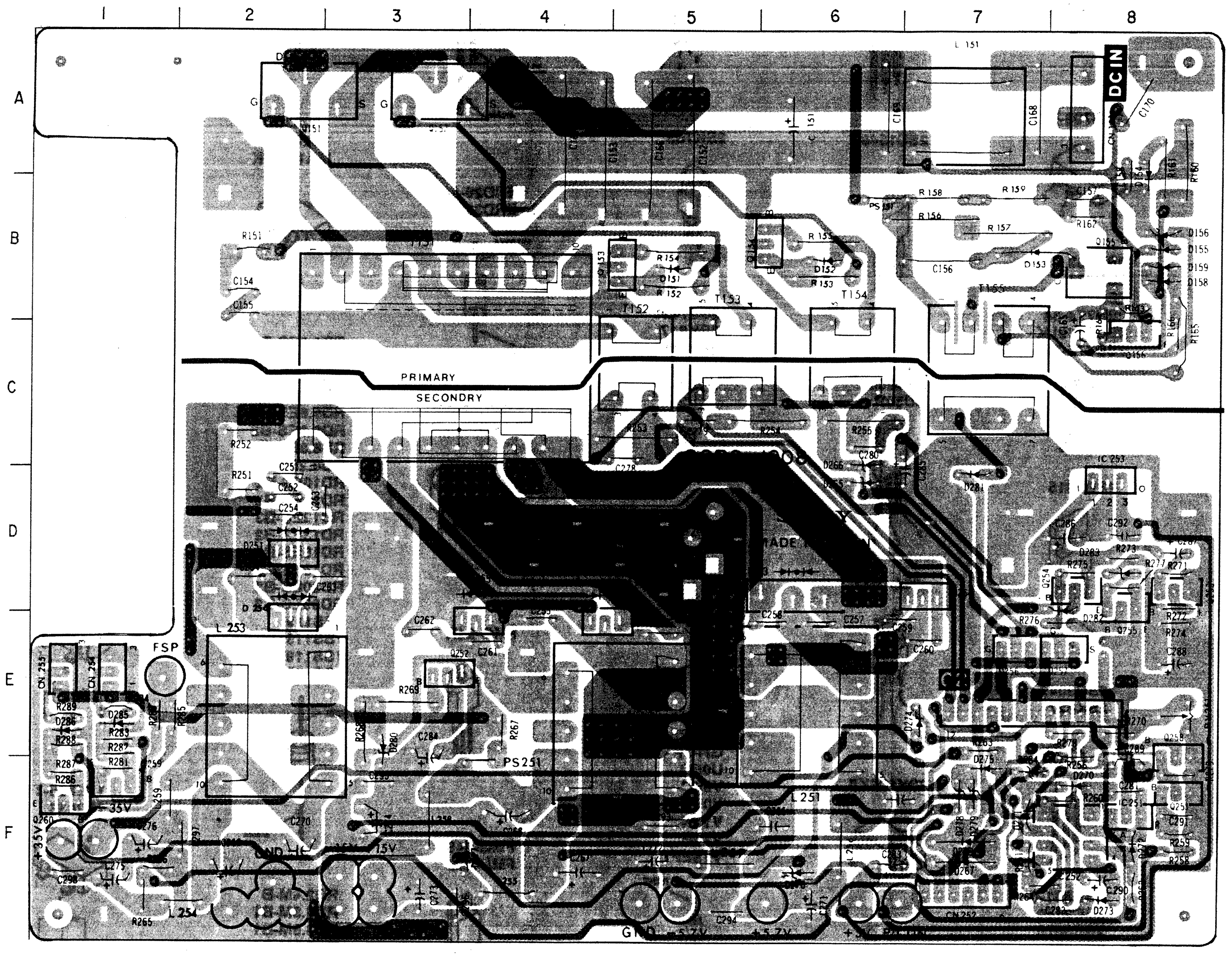
C2	IC051	MB3759	CONTROL
	Q053	2SA1175	AMP
	D051	llEQS04	RECT
	052	llEQS04	RECT
	053	llEQS04	RECT
	054	llEQS04	RECT
	055	llEQS04	CLAMP
	056	llEQS04	CLAMP
	057	1SS119	PROT
	058	03P2M	OFF
	059	1SS119	PRORT


M2 (POWER SUPPLY)
C2
TO M1 BOARD CN106
CN151
DC (+)
NC
DC (0V)
L151 SC-06-50S LFT
T151
T152
T153
T154
T155
Q151 2SK827
Q152 2SK827
Q153 2SB733
Q154 2SB733
Q155 2SC3150
Q156 2SC2785
D251 FMG-24S
D252 FML-22S
D253 FML-32S
D254 FML-22R
D255 FML-22R
D256 FMG-24R
L253 2.25mH
L254 68μH
L252 136μH
L251 136μH
+35V
+15.5V
+5.7V
-5.7V
-15.5V
-35V
IC253 μPC78-05HF
TO C1 BOARD CN52
CN52
GND
SYN
IC51 MB3759
VCC OC VDD
GND RT CT D.C
Q53 2SA1175
D58 03P2M
Q251 2SC2785
Q258 2SC2785
IC251 TL431CLP
RV251 1k


8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
T151
R151 68 5W
C154 0.001 500V
C155 0.001 500V
C251 0.0015 500V
C252 0.0015 500V
R251 33 5W
R252 33 5W
R253 6.8 1W (RSSX)
C278 0.033
D251 FMB-24S
D252 FML-22S
D253 FML-32S
D254 FML-22R
D255 FML-22R
D256 FMB-24R
L253 2.25mH
L252 136μH
L251 136μH
L254 68μH
L255
L256
L257
L258
L259 68μH
+35V
+15.5V
+5.7V
-5.7V
-15.5V
-35V
D277 RD15ESB2
D276 RD5.6ESB2
R265 13k F (1/6W)
R266 910 F (1/6W)
C283 330 6.3V
TO DM BOARD DM-19, DM-20, DM-21
1 -35V
2 -15.5V
3 -5.7V
4
5 FAN PROT
6 GND
7 GND
8 GND
9 GND
10
11 +35V
12 +15.5V
13 +5.7V
14 SUB (5V)
15 POWER CONT
TO PA BOARD PA-1
1 +15.5V
2 GND
3 -15.5V
TO MI BOARD CN202
CN252
6 RELAY(-)
5 RELAY(+)
4 GND
3 VCC1
2 VCC2
1 STOP.S
C2
CN51-12
CN51-11
CN51-8
CN51-6
CN51-4
CN51-10
CN51-5
CN51-9
CN51-2
CN51-3
CN51-1
CN51-7
D51 1SS119
D52 1SS119
D53 1SS119
D54 1SS119
L51 4.7μH
R51 330
R52 270
C53 0.47
R56 1M
D55 11EQS04
D56 11EQS04
IC51 MB3759
VCC OC VDD
GND RT CT D.C
Q53 2SA1175
D57 1SS119
D58 03P2M
D59 1SS119
TO C1 BOARD CN52
CN52
GND 1
SYN 2
T153
T154
T155
D266 RD39ESB
Q257 2SK422
D265 RD39ESB
Q256 2SK422
D281 AU02A
D282 11EQS04
Q254 2SB734
Q255 2SC2785
Q253 2SC2785
D283 RD5.1ESB1
IC253 μPC78-05HF
D268 10E-1
D267 10E-1
D284 RD6.8ESB2
IC251 TL431CLP
D272 1SS119
D270 1SS119
IC252 μPC358C
D274 1SS119
D271 1SS119
D273 1SS119
D275 1SS119
Q251 2SC2785
Q258 2SC2785
RV251 1k
D279 RD6.8ESB2
D278 RD18ESB1
PS251 N-15
Q252 2SD882
D280 RD12ESB3
Q259 2SC2785
D285 1SS119
Q260 2SC2785
D286 1SS119
CN254
3 GND
2 SENSER
1 -12V
CN255
3 GND
2 SENSER
1 -12V
FAN
FAN

M2 **C2** [POWER SUPPLY]

– M2 BOARD –


1
2
3
4
5
6
7
8
A
B
C
D
E
F
DC IN
L151
C168
PRIMARY
SECONDRY
T152
T153
T154
T155
IC253
PS251
L253
L251
L254
FSP
35V
15V
GND
R151
C154
C155
R252
R251
R158
R159
R156
R157
C156
D153
D151
D152
R154
R152
R153
C151
R256
R254
C258
C262
C260
R267
R269
R276
C270
CN251
CN252
CN254
D285
D286
R283
R287
R281
R288
R289
C290
C294
D273
R265

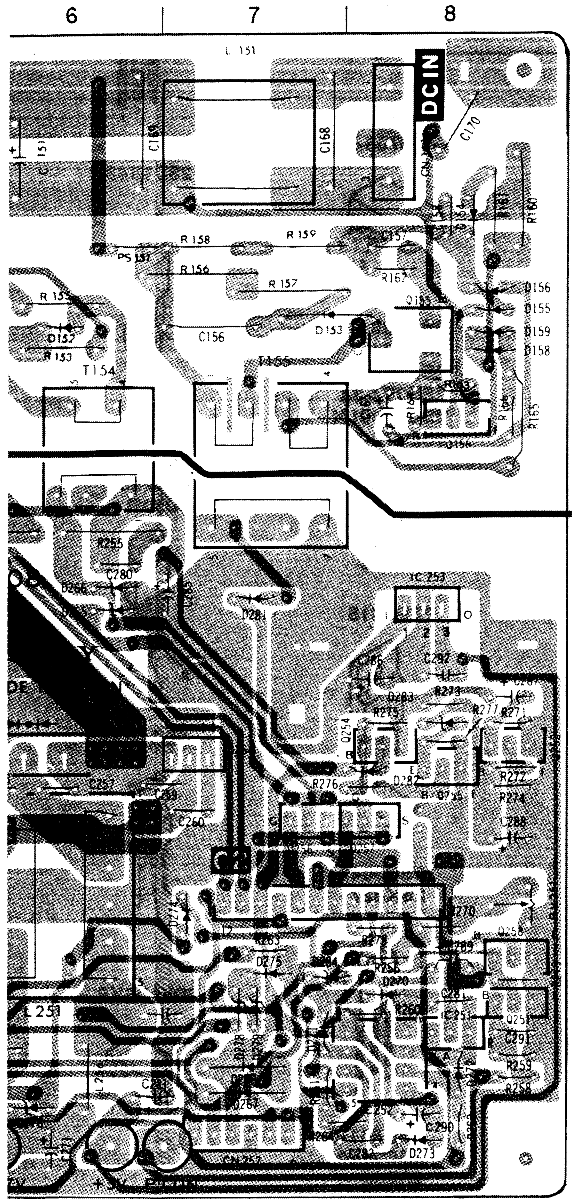
M2 BOARD

IC	
IC251	F - 8
IC252	F - 8
IC253	D - 8

ADJUSTING ELEMENT	
RV251	E - 8

TRANSISTOR	
Q151	A - 2
Q153	A - 3
Q153	B - 5
Q154	B - 6
Q155	B - 6
Q156	C - 8
Q251	F - 8
Q252	E - 3
Q253	D - 8
Q254	D - 8
Q255	D - 8
Q256	E - 7
Q257	E - 8
Q258	E - 8
Q259	F - 1
Q260	F - 1

DIODE	
D151	B - 5
D152	B - 6
D153	B - 7
D154	A - 8
D155	B - 8
D156	B - 8
D158	B - 8
D159	B - 8
D251	D - 2
D252	E - 5
D253	D - 6
D254	D - 7
D255	D - 4
D256	D - 2
D265	D - 6
D266	C - 6
D267	F - 7
D268	F - 7
D270	F - 8
D271	F - 7
D272	F - 8
D273	F - 8
D274	E - 7
D275	F - 7
D276	F - 6
D277	F - 4
D278	F - 7
D279	F - 7
D280	E - 3
D281	D - 7
D282	D - 8
D283	D - 8
D284	F - 7
D285	E - 1
D286	E - 1


6
7
8
DC-IN
L151
C151
C164
C168
C170
R158
R159
PS151
R156
R157
R167
R155
D152
R153
C156
D153
T155
T154
Q155
D156
D155
D159
D158
Q156
R160
R161
IC253
R255
C280
D266
D281
C257
C260
Q254
C292
R273
R277
R271
R272
R274
C288
R275
R276
C286
L251
C290
D273
CN252

M2 BOARD

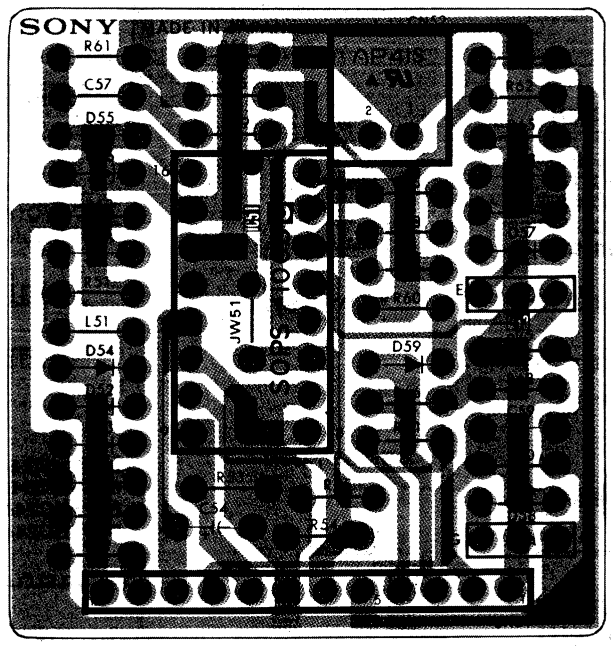
IC	
IC251	F - 8
IC252	F - 8
IC253	D - 8

ADJUSTING ELEMENT	
RV251	E - 8

TRANSISTOR	
Q151	A - 2
Q153	A - 3
Q153	B - 5
Q154	B - 6
Q155	B - 6
Q156	C - 8
Q251	F - 8
Q252	E - 3
Q253	D - 8
Q254	D - 8
Q255	D - 8
Q256	E - 7
Q257	E - 8
Q258	E - 8
Q259	F - 1
Q260	F - 1

DIODE	
D151	B - 5
D152	B - 6
D153	B - 7
D154	A - 8
D155	B - 8
D156	B - 8
D158	B - 8
D159	B - 8
D251	D - 2
D252	E - 5
D253	D - 6
D254	D - 7
D255	D - 4
D256	D - 2
D265	D - 6
D266	C - 6
D267	F - 7
D268	F - 7
D270	F - 8
D271	F - 7
D272	F - 8
D273	F - 8
D274	E - 7
D275	F - 7
D276	F - 6
D277	F - 4
D278	F - 7
D279	F - 7
D280	E - 3
D281	D - 7
D282	D - 8
D283	D - 8
D284	F - 7
D285	E - 1
D286	E - 1

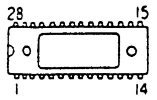
– C2 BOARD –


SONY
R61
C57
D55
L51
D54
JW51
D59

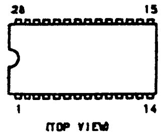
- ▓ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

7-6. SEMICONDUCTORS

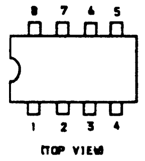
CXA1158P



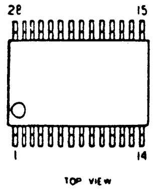
CXA1216P


28
15
1
14
(TOP VIEW)

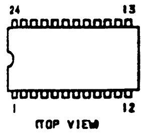
CX-7916
RC4558P
LM6364N
TL082CP
MBM27C521-25
μPC318C
μPC358C
μPC393C
μPC4082C
μPC4558C
μPC814C
μPC814G2-1


8 7 6 5
1 2 3 4
(TOP VIEW)

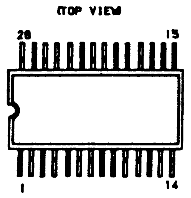
CXK3864-040M
CXK3864-041M
CXK3864-042M


28
15
1
14
TOP VIEW

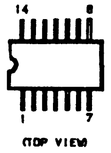
CXK5814P-45L


24
13
1
12
(TOP VIEW)

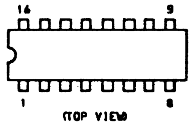
CXK5864BM-12L


(TOP VIEW)
28
15
1
14

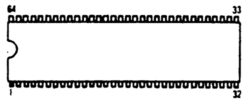
MC74HC04NS
SN74HC107NS
SN74HC04NS


14
8
1
7
(TOP VIEW)

HC14495P1
HD10124
HD14052BP
HD14053BP
HD14538BP
HD14538BFP
MB3759
MB675429
MC10124L
MC34051P
MC14572UBCP
MC74HC4538N
SN74S124N
TC4040BP
YC4053BP
TC74HC157AP
SN74HC138NS

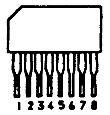

16
9
1
8
(TOP VIEW)

HD64180RIP8

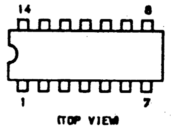


(Top view)

LA7016



MC74HC00N
MC1495L
MC14053BF
TC74HC27AP
TC74HC00P
SN74HC14NC
μPC1394C


14
8
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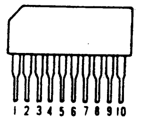
7
(TOP VIEW)

SNY-8C02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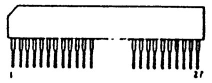
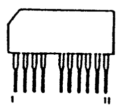
TY885002



TY885003-A



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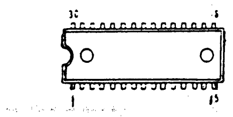
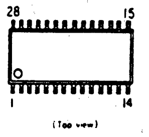


(Top view)

MB86023


28
15
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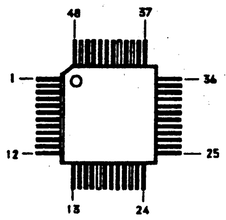
14
(Top view)

MB8855-1293N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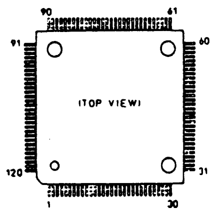
90
61
91
60
(TOP VIEW)
120
31
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30

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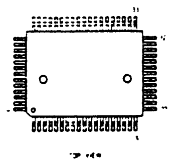

MB670840PF
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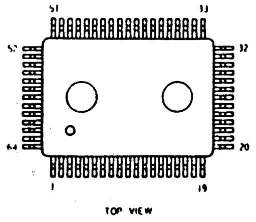
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64
20
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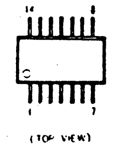
19
TOP VIEW

MC74HC14F
MC74F00N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(TOP VIEW)

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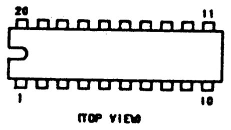
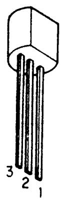
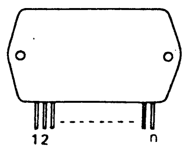
MC74HC541N
SN74HC244N
SN74HC244NS


20
11
1
10
(TOP VIEW)

RC78L12FA



STK4141V



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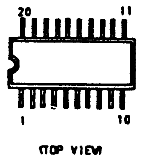
20
11
1
10
(TOP VIEW)

M5F78M12
NJM78M12A
RC7812H
μPC7812H
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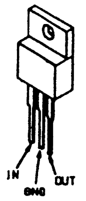
RC7812FA



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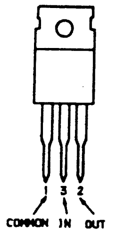
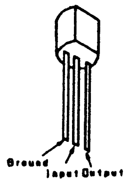
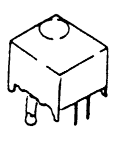

1 3 2
COMMON IN OUT

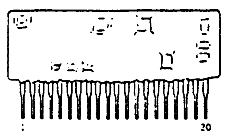
NJM79L12A
RC78L05A


Ground
Input Output

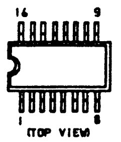
SBX-1438-59



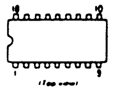
SBX-4011-01



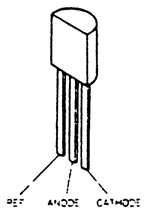
TC74HC123F


16
9
1
8
(TOP VIEW)

TDA2595


18
10
1
9
(Top view)

TL431CLP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ANODE
CATHODE

LM393PS
μPC393G2
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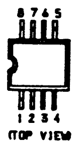
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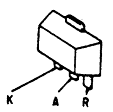
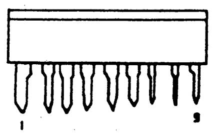
1 2 3 4
(TOP VIEW)

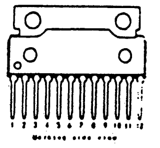
μPC1093T



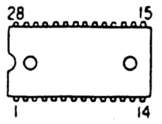
μPC1406HA



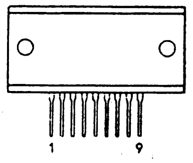
μPC1498H


1 2 3 4 5 6 7 8 9 10 11 12

μPD28C64C-20
μPD28C64C-25
TDA4555-V8



VPH05



DTA124EK
DTC114EK
DTC144EK
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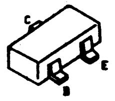
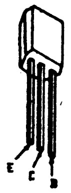
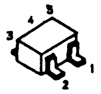
2SC-2859-Y
2SC3545-T43



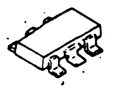
DTA124ES
DTA114TS
DTC114ES
DTC124ES
DTC144ES



FMS-1
FMS-2
FMW-1
FMW-2
FMW-8



IMX-2



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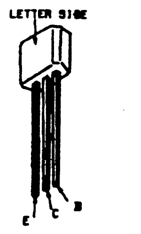
LETTER SIDE
E
C
B

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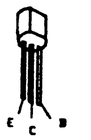
2SC2910-S
2SD789-4TZ
2SD789-34



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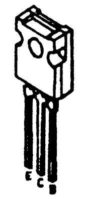

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2SC2688-LK
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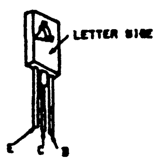
2SD882


LETTER SIDE
E
C
B

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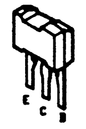

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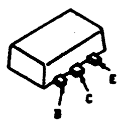
2SB798-DL



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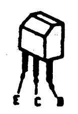
2SB734
2SB734-34
2SB774-34
2SC3209LK
2SD774-34



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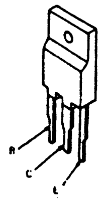

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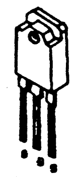

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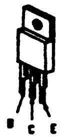
2SD1138-C



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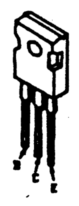

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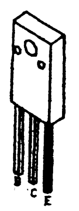
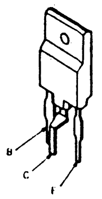


2SD1548



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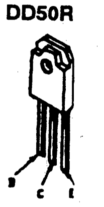
2SC2555
DD50R



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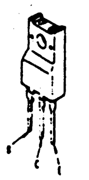
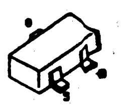


2SK106K6



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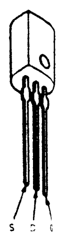

M5F78M12
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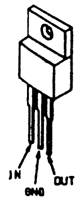
RC7812H
μPC7812H
μPC78M12H
RC7812FA



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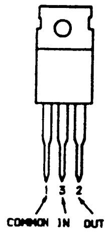
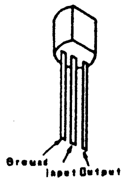
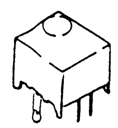

1 3 2
COMMON IN OUT

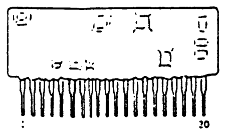
NJM79L12A
RC78L05A


Ground Input Output

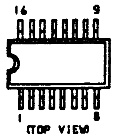
SBX-1438-59



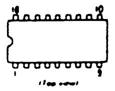
SBX-4011-01



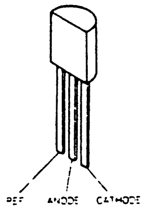
TC74HC123F


16 9
1 8
(TOP VIEW)

TDA2595



TL431CLP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μPC393G2
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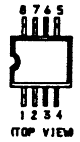
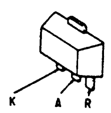
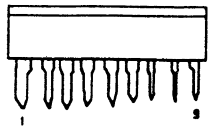

8 7 6 5
1 2 3 4
(TOP VIEW)

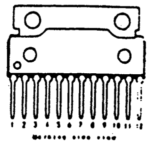
μPC1093T



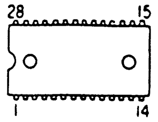
μPC1406HA



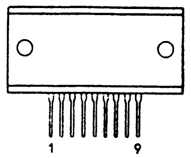
μPC1498H



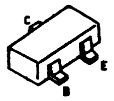
μPD28C64C-20
μPD28C64C-25
TDA4555-V8



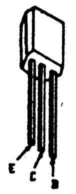
VPH05



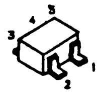
DTA124EK
DTC114EK
DTC144EK
2SA1162-YG
2SA1462-Y33
2SC1621
2SC2712
2SC2712-YG
2SC-2859-Y
2SC3545-T43



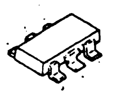
DTA124ES
DTA114TS
DTC114ES
DTC124ES
DTC144ES



FMS-1
FMS-2
FMW-1
FMW-2
FMW-8



IMX-2



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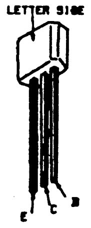
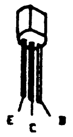
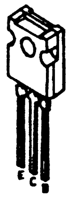
2SA1175-HFE
2SC2785TP-F
2SC2785TP-H
2SC2785TP-J
2SC2785-HFE


LETTER SIDE
E C B

2SA1208-S
2SC2910-S
2SD789-4TZ
2SD789-34



2SA1358-Y
2SC3421-Y



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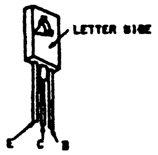
2SA1156
2SA1381
2SA1381-E
2SA1407
2SC2688-LK
2SC2752
2SD882


LETTER SIDE
E C B

2SA1428Y
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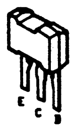

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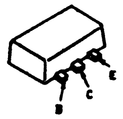
2SB798-DL



2SB733
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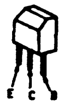
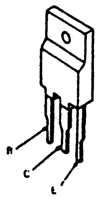
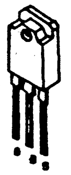
2SB734-34
2SB774-34
2SC3209LK
2SD774-34



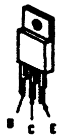
2SB1315



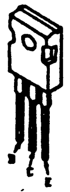
2SC3042
2SK827



2SB861-C
2SC3150
2SC3675
2SD982
2SD1138-C



2SC3998



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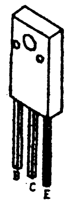
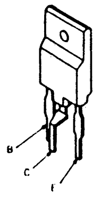


2SD1548



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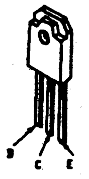
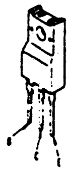
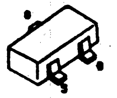
2SC2555
DD50R



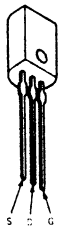
2SD1977



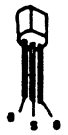
2SK106K6



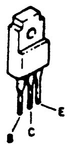
2SK422



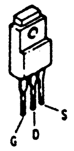
2SK523-M1
2SK523-L1



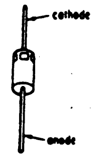
2SK755



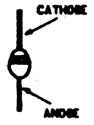
2SJ143
2SK817
2SK929



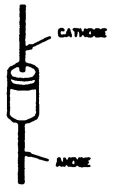
ERA22-06


cathode
anode

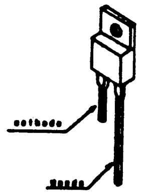
ERC06-15SA
ERC38-06
GH-3F
U05G
V06C
V09G
V11N
V19E
V19EF1


CATHODE
ANODE

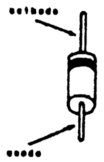
1SS83
RD13EB
ERB43-08
10E-1


CATHODE
ANODE

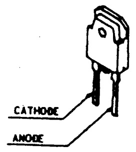
ERC88-009


cathode
anode

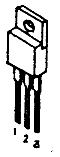
ERD29-08J
ERD33-02


cathode
anode

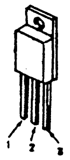
ESAD39-06C
ESAD39-06N


CATHODE
ANODE

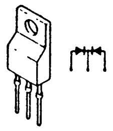
FMG-24R



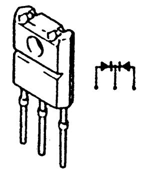
FMG-24S
FML-22S



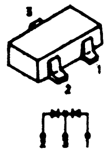
FML-22R



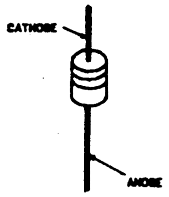
FML-32S



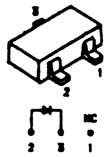
1S2837
1S2838
MA152WK



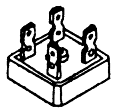
RD2.0ES-B2
RD3.3ES-B2
RD5.1ES-B2
RD5.6ES-B2
RD5.6ES-B3
RD6.2ES-B2
RD6.8ES-B2
RD8.2ES-B2
RD10ES-B2
RD12ES-B2
RD12ES-B3
RD13ES-B2
RD15ES-B2
RD185ES-B1
RD20ES-B2
RD39ES-B2
1SS119
1SS119TD
1SS119TG
1SS120


CATHODE
ANODE

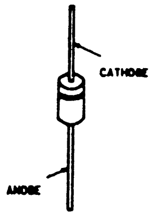
RD2.4M-B
RD3.3M-B1
RD3.6M-B1
RD5.1M-B2
RD6.2M-B2
RD12M-B2
RD13M-B2
1SS193
1SS220



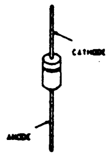
S15VB60



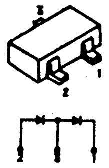
RU-1C
ERC91-02


CATHODE
ANODE

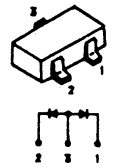
1SS83


CATHODE
ANODE

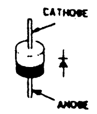
1SS123
1SS226



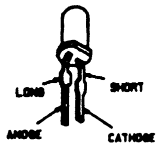
1S2835-T1
1S2836



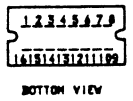
11EQS04


CATHODE
ANODE

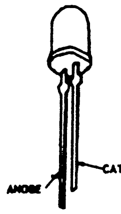
GL-3EG8
SLP28IC-50
TLR123
TLG123A


LONG
SHORT
ANODE
CATHODE

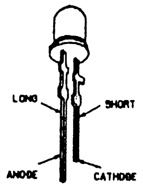
GL-6R202


1 2 3 4 5 6 7 8
16 15 14 13 12 11 10 9
BOTTOM VIEW

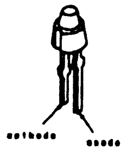
SE303AY


ANODE
CATHODE

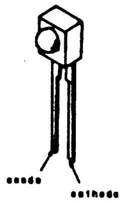
SLH-34MC3


LONG
SHORT
ANODE
CATHODE

SLP144B


cathode
anode

LN25RP
TLR214


anode
cathode

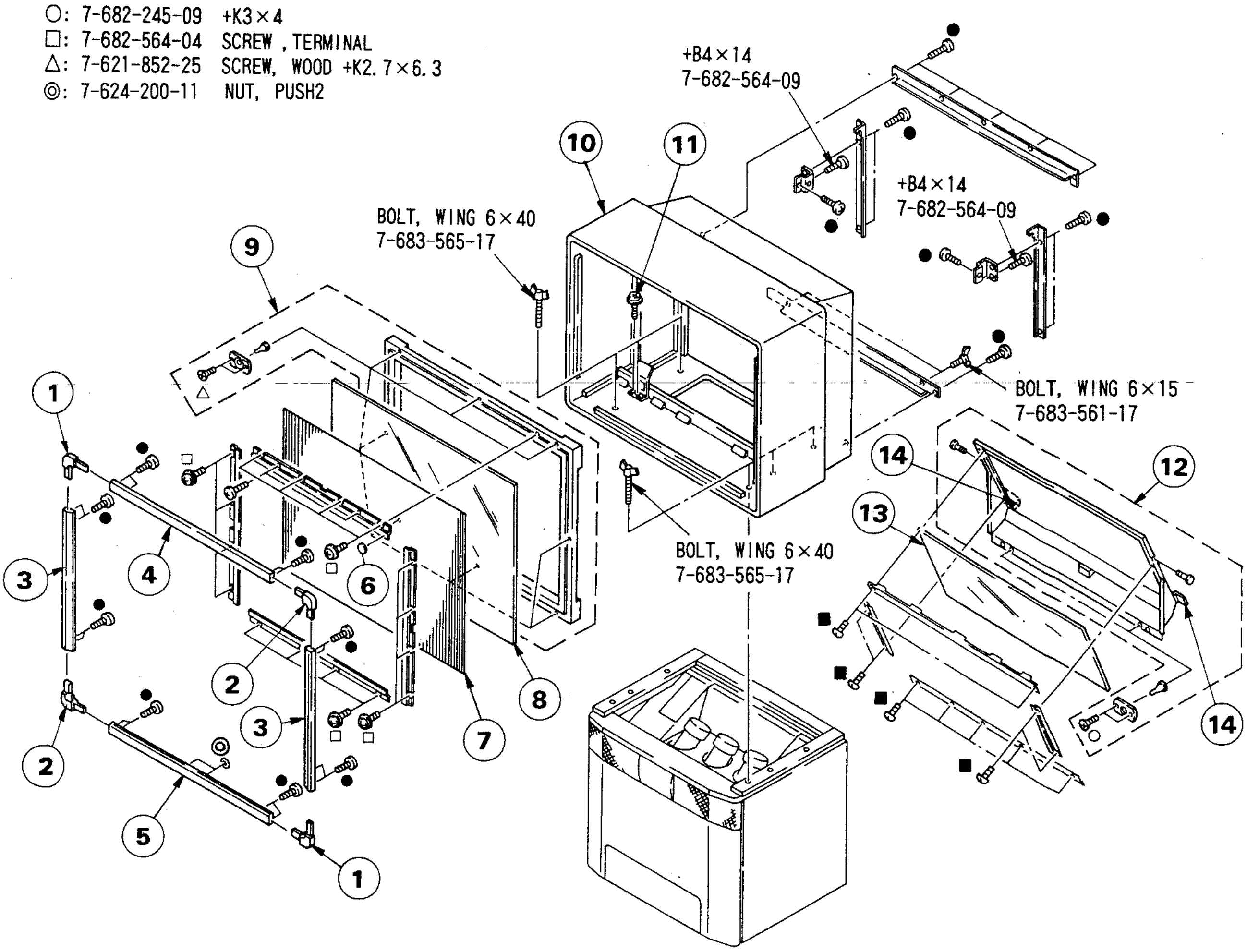
SECTION 8
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

8-1. CABINET (U) BLOCK

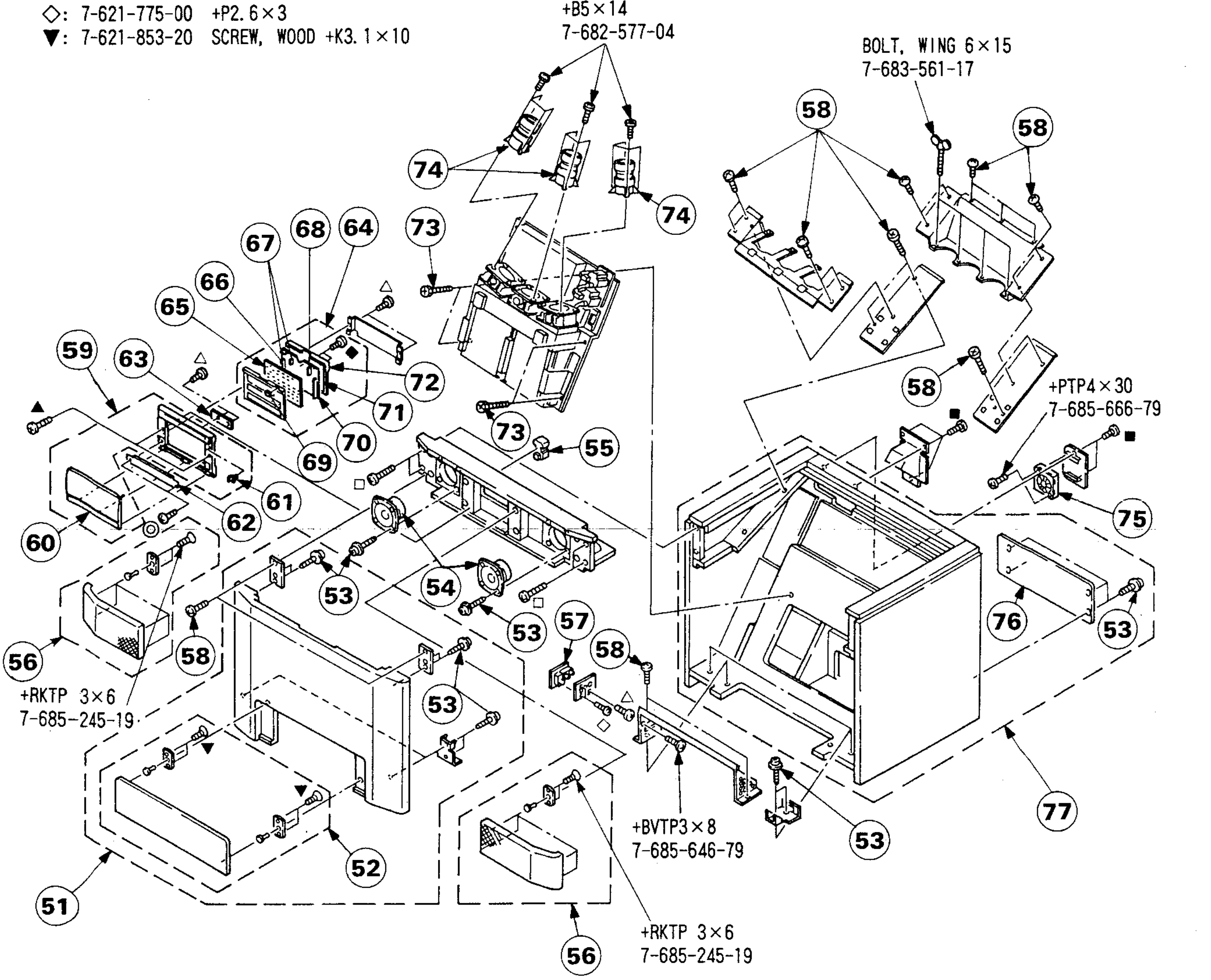
●: 7-685-661-79 +BVTP4×12
■: 7-682-565-09 +B4×16
○: 7-682-245-09 +K3×4
□: 7-682-564-04 SCREW ,TERMINAL
△: 7-621-852-25 SCREW, WOOD +K2.7×6.3
◎: 7-624-200-11 NUT, PUSH2


+B4×14
7-682-564-09
10
11
+B4×14
7-682-564-09
BOLT, WING 6×40
7-683-565-17
9
BOLT, WING 6×15
7-683-561-17
1
14
12
13
3
4
6
BOLT, WING 6×40
7-683-565-17
2
8
3
7
2
5
1
14

REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-396-963-01	FRAME (L), SCREEN CORNER	
2	4-396-964-01	FRAME (R), SCREEN CORNER	
3	X-4395-553-1	FRAME (V) ASSY, SCREEN	
4	X-4395-551-1	FRAME (H.L) ASSY, SCREEN	
5	X-4029-035-1	FRAME (L) ASSY, SCREEN	
6	2-270-660-00	MARKER (R)	
7	4-396-959-11	SCREEN (L)	
8	4-396-958-11	SCREEN (F)	
9	*X-4395-546-1	BRACE ASSY, SCREEN	
10	*X-4029-034-1	CABINET (U) ASSY	11
11	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
12	*X-4395-542-1	COVER ASSY, MIRROR	
13	4-396-952-01	MIRROR	
14	4-396-983-01	HOLDER (M)	

8-2. CABINET (L) BLOCK

■: 7-682-565-09 +B4×16
▲: 7-682-570-09 +B4×40
◎: 7-682-550-09 +B3×12
□: 7-682-569-09 +B4×35
△: 7-685-647-79 +BVTP3×10
◆: 7-685-134-19 +P2.6×8
◇: 7-621-775-00 +P2.6×3
▼: 7-621-853-20 SCREW, WOOD +K3.1×10

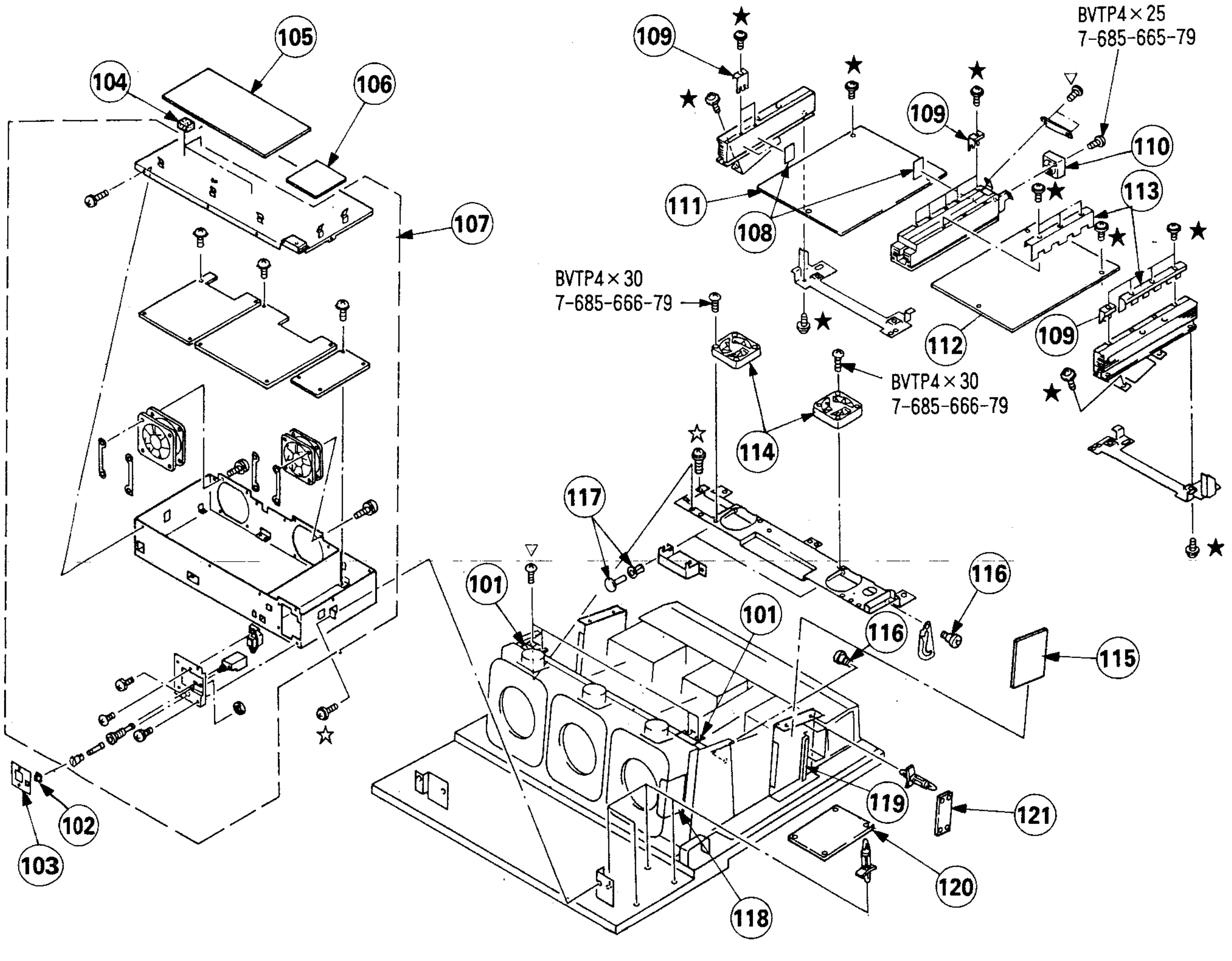

+B5×14
7-682-577-04
BOLT, WING 6×15
7-683-561-17
58
58
74
74
73
67
68
64
66
65
59
63
72
71
70
69
73
55
58
+PTP4×30
7-685-666-79
75
61
62
60
53
54
53
57
58
76
53
56
58
+RKTP 3×6
7-685-245-19
53
+BVTP3×8
7-685-646-79
53
77
52
51
56
+RKTP 3×6
7-685-245-19

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	*X-4029-033-1	COVER ASSY, FRONT	52,53
52	*X-4029-024-1	DOOR ASSY, FRONT	
53	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
54	1-503-917-11	SPEAKER	
55	3-701-983-00	BUSHING, AC CORD	
56	X-4029-026-1	GRILLE ASSY, SPEAKER	
57	*1-634-039-11	U BOARD	
58	3-701-810-91	SCREW, TERMINAL	
59	X-4029-073-1	HOLDER (F) ASSY, CONTROL PANEL	60,61
60	4-396-994-01	DOOR, CONTROL	
61	4-392-036-01	CATCHER, PUSH	
62	*4-396-950-01	COVER, SWITCH	
63	*1-634-041-11	N BOARD	
64	A-1499-936-A	PANEL ASSY, CONTROL	65-72
65	4-395-509-01	SHEET, RUBBER	
66	*1-631-356-11	RCA BOARD	
67	*1-631-493-11	RCD BOARD	
68	*1-631-358-11	RCC BOARD	
69	4-395-501-01	KEY TOP	
70	*1-631-357-11	RCB BOARD	
71	*1-631-359-11	RC BOARD	
72	4-395-508-01	CASE, LOWER	
73	4-396-260-11	BOLT, SOCKET HEXAGON	
74	4-396-957-01	LENS (HD-116)	
75	1-541-703-11	FAN, DC	
76	*4-398-722-01	COVER, RACK	
77	*X-4029-032-1	CABINET (L) ASS	58,53,76

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

8-3. POWER BLOCK AND ED BLOCK

∇: 7-685-646-79 +BVTP3×8
★: 7-682-549-04 SCREW, TERMINAL (M3×10)
☆: 7-682-561-04 SCREW, TERMINAL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BVTP4×25
7-685-665-79
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BVTP4×30
7-685-666-79
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BVTP4×30
7-685-666-79
114
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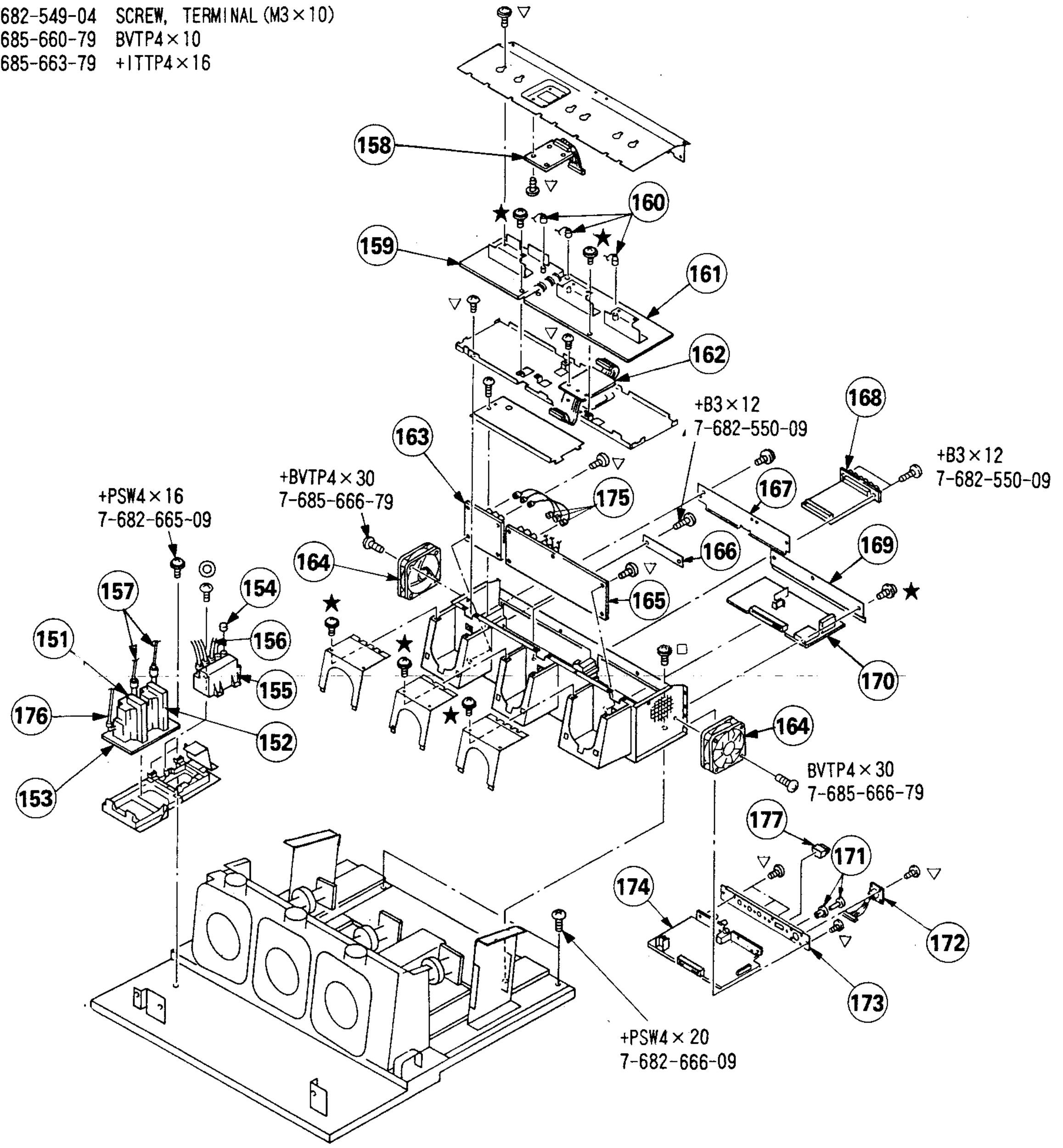
REF.NO.	PART NO.	DESCRIPTION	REMARK
101	*3-658-816-00	HINGE, FRONT	
102	4-362-811-00	BUTTON, MAIN POWER	
103	4-396-205-01	PLATE, POWER	
104	*4-398-732-01	CUSHION	
105	*A-1195-033-A	COMPLETE PCB, PA	
106	*A-1380-289-A	MOUNTED PCB, K	
107	⚠. 1-413-483-13	REGULATOR,SWITCHING(SOPS1008B)	
108	4-393-406-01	SHEET (R), RADIATION	
109	*4-395-528-01	HOLDER (C), TR	
110	1-541-702-11	FAN, DC	
111	*A-1345-923-A	COMPLETE PCB, E	
112	*A-1345-922-A	COMPLETE PCB, DC	
113	*4-395-553-01	HOLDER (A), TR	
114	1-541-703-11	FAN, DC	
115	*A-1380-290-A	MOUNTED PCB, KA	
116	3-671-135-00	SCREW, STEP	
117	4-374-303-01	RIVET, NYLON	
118	*X-4395-575-1	PLATE ASSY, SHIELD	
119	*3-703-353-07	SUPPORT, PC BOARD	
120	*1-634-040-11	F BOARD	
121	*1-636-288-11	KB BOARD	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

8-4. C SHIELD BLOCK

▽: 7-685-646-79 +BVTP3×8
★: 7-682-549-04 SCREW, TERMINAL (M3×10)
◎: 7-685-660-79 BVTP4×10
□: 7-685-663-79 +ITTP4×16


158
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+B3×12
7-682-550-09
168
+B3×12
7-682-550-09
167
175
+BVTP4×30
7-685-666-79
+PSW4×16
7-682-665-09
164
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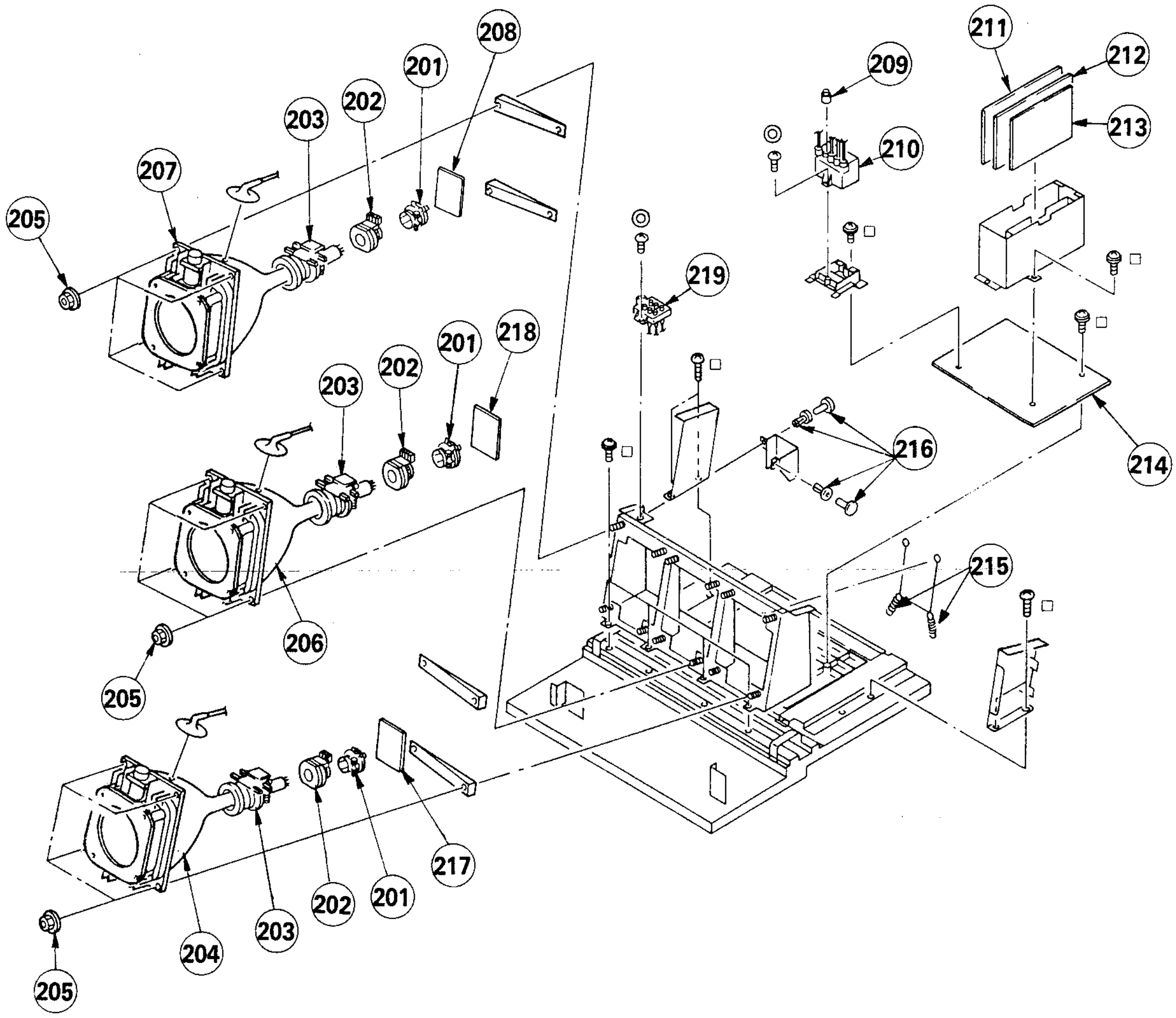
153
BVTP4×30
7-685-666-79
177
171
174
172
173
+PSW4×20
7-682-666-09

REF.NO.	PART NO.	DESCRIPTION	REMARK
151	⚠. 1-439-466-11	TENSFORMER ASSY, FLYBACK (NX-2500)	
152	⚠. 1-439-466-21	TENSFORMER ASSY, FLYBACK (NX-2502)	
153	*1-634-631-11	PB BOARD	
154	4-373-137-01	CAP (Z), RUBBER	
155	⚠. 1-453-108-31	DC BLOCK, HIGH-VOLTAGE	
156	⚠. 1-559-865-31	LEAD ASSY, HIGH-VOLTAGE	
157	⚠. 1-574-973-11	LEAD ASSY, HIGH-VOLTAGE	
158	*1-629-820-11	CF-2 BOARD	
159	*A-1335-013-A	COMPLETE PCB, CA (B)	
160	1-555-110-00	CABLE, P-P	
161	*A-1335-012-A	COMPLETE PCB, CA (RG)	
162	*1-629-829-11	QM BOARD	
163	*1-629-819-11	CF-1 BOARD	
164	1-541-703-11	FAN, DC	
165	*1-629-818-11	BM BOARD	
166	*4-395-530-01	PLATE (Q)	
167	*4-395-558-01	PLATE (Z)	
168	1-466-236-11	INPUT UNIT, RGB	
169	*4-395-559-11	PLATE (B)	
170	*A-1135-585-A	COMPLETE PCB, BA	
171	4-374-303-01	RIVET, NYLON	
172	1-575-092-11	CONNECTOR ASSY, MULTI 14P	
173	4-395-583-01	PANEL (B), CONNECTOR	
174	*A-1135-647-A	COMPLETE PCB, BB	
175	*1-575-091-11	CABLE, P-P	
176	⚠. 1-574-974-11	LEAD ASSY, HIGH-VOLTAGE	
177	*3-673-948-11	CAP, DUST	

8-5. CRT BLOCK

◎: 7-685-660-79 +BVTP4×10
□: 7-685-663-79 +ITTP4×16

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.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REF.NO.	PART NO.	DESCRIPTION	REMARK
201	⚠.1-452-443-13	NECK ASSY, CRT (NA367)	
202	⚠.1-452-487-31	NECK ASSY, CRT (NA363A)	
203	⚠.1-451-355-11	DEFLECTION YOKE (Y636PJ)	
204	⚠.8-736-623-00	CRT 07MJR	
205	4-304-511-00	NUT, FLANGE	
206	⚠.8-736-621-00	CRT 07MJG	
207	⚠.8-736-622-00	CRT 07MJB	
208	*1-629-828-11	CB (B) BOARD	
209	4-373-137-01	CAP (Z), RUBBER	
210	⚠.1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
211	*A-1345-901-A	COMPLETE PCB, DB	
212	*A-1345-873-A	COMPLETE PCB, DA	
213	*A-1394-213-A	COMPLETE PCB, Y	
214	*1-629-830-11	DM BOARD	
215	4-303-774-XX	SPRING	
216	4-374-303-01	RIVET, NYLON	
217	*1-629-826-11	CB (R) BOARD	
218	*1-629-827-11	CB (G) BOARD	
219	⚠.1-238-755-11	RESISTOR ASSY, HIGH-VOLTAGE	

BM **BA**

SECTION 9
ELECTRICAL PARTS LIST

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- ⁕ : Selected to yield optimum performance.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

RVP-6000Q

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*1-629-818-11	BM BOARD			
		********			
	*1-564-509-11	PLUG, CONNECTOR 6P			
	*1-564-515-11	PLUG, CONNECTOR 12P			
	*1-568-979-11	CONNECTOR 30P			
	*1-568-981-11	CONNECTOR, MALE 64P			
	*1-568-985-11	CONNECTOR, FEMALE 64P			
		<CONNECTOR>			
BM1	*1-568-984-11	CONNECTOR, MALE 96P			
BM3	*1-568-982-11	CONNECTOR, FEMALE 96P			
BM4	*1-568-982-11	CONNECTOR, FEMALE 96P			
		<JACK>			
J1	*1-526-575-00	SOCKET, PLUG 1P			
J2	*1-526-575-00	SOCKET, PLUG 1P			
J3	*1-526-575-00	SOCKET, PLUG 1P			
J4	*1-526-575-00	SOCKET, PLUG 1P			
J5	*1-526-575-00	SOCKET, PLUG 1P			
J6	*1-526-575-00	SOCKET, PLUG 1P			
**					
	*A-1135-585-A	BA BOARD, COMPLETE			
		******************			
	*1-568-984-11	CONNECTOR, MALE 96P			
		<MODULE>			
BPF001	1-236-366-11	MODULE, TRAP			
BPF002	1-236-365-11	MODULE, TRAP			
BPF003	1-236-063-11	MODULE, B.P.F			
		<CAPACITOR>			
C001	1-124-477-11	ELECT	47MF	20%	16V
C002	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C003	1-126-233-11	ELECT	22MF	20%	50V
C004	1-126-233-11	ELECT	22MF	20%	50V
C005	1-126-233-11	ELECT	22MF	20%	50V
C006	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C007	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C008	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C009	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C010	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C011	1-126-101-11	ELECT	100MF	20%	16V
C012	1-123-875-11	ELECT	10MF	20%	50V
C013	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C014	1-126-233-11	ELECT	22MF	20%	50V
C015	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C016	1-126-233-11	ELECT	22MF	20%	50V
C017	1-126-101-11	ELECT	100MF	20%	16V
C018	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C019	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C020	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C021	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C022	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C023	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C024	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C027	1-123-875-11	ELECT	10MF	20%	50V
C030	1-163-213-00	CERAMIC CHIP	0.0022MF	10%	50V
C101	1-124-119-00	ELECT	330MF	20%	16V
C102	1-124-119-00	ELECT	330MF	20%	16V
C103	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C104	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C105	1-136-153-00	FILM	0.01MF	5%	50V
C106	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C107	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C108	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C109	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C110	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C111	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C112	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C113	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C114	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C115	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C116	1-124-791-11	ELECT	1MF	20%	50V
C117	1-124-791-11	ELECT	1MF	20%	50V
C118	1-136-173-00	FILM	0.47MF	5%	50V
C119	1-136-161-00	FILM	0.047MF	5%	50V
C120	1-136-157-00	FILM	0.022MF	5%	50V
C121	1-136-157-00	FILM	0.022MF	5%	50V
C122	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C123	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C124	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C201	1-124-477-11	ELECT	47MF	20%	16V
C202	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C203	1-126-233-11	ELECT	22MF	20%	50V
C204	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C205	1-126-233-11	ELECT	22MF	20%	50V
C206	1-136-169-00	FILM	0.22MF	5%	50V
C207	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C208	1-124-902-00	ELECT	0.47MF	20%	50V
C209	1-124-902-00	ELECT	0.47MF	20%	50V
C210	1-124-902-00	ELECT	0.47MF	20%	50V
C214	1-126-233-11	ELECT	22MF	20%	50V
C215	1-124-477-11	ELECT	47MF	20%	16V
C216	1-124-464-11	ELECT	0.22MF	20%	50V
C217	1-124-464-11	ELECT	0.22MF	20%	50V
C218	1-124-477-11	ELECT	47MF	20%	16V

BA

REF.NO.	PART NO.	DESCRIPTION			REMARK
C219	1-136-157-00	FILM	0.022MF	5%	50V
C220	1-130-471-00	MYLAR	0.001MF	5%	50V
C221	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C222	1-136-169-00	FILM	0.22MF	5%	50V
C223	1-136-153-00	FILM	0.01MF	5%	50V
C224	1-124-463-00	ELECT	0.1MF	20%	50V
C225	1-130-479-00	MYLAR	0.0047MF	5%	50V
C226	1-124-791-11	ELECT	1MF	20%	50V
C227	1-136-153-00	FILM	0.01MF	5%	50V
C228	1-124-927-11	ELECT	4.7MF	20%	50V
C229	1-124-927-11	ELECT	4.7MF	20%	50V
C230	1-130-477-00	MYLAR	0.0033MF	5%	50V
C231	1-130-481-00	MYLAR	0.0068MF	5%	50V
C232	1-130-476-00	MYLAR	0.0027MF	5%	50V
C233	1-136-161-00	FILM	0.047MF	5%	50V
C234	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C235	1-124-925-11	ELECT	2.2MF	20%	50V
C236	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C237	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C238	1-124-925-11	ELECT	2.2MF	20%	50V
C239	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C240	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C241	1-124-925-11	ELECT	2.2MF	20%	50V
C242	1-124-925-11	ELECT	2.2MF	20%	50V
C243	1-124-925-11	ELECT	2.2MF	20%	50V
C244	1-123-875-11	ELECT	10MF	20%	50V
C245	1-123-875-11	ELECT	10MF	20%	50V
C246	1-123-875-11	ELECT	10MF	20%	50V
C247	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C249	1-126-101-11	ELECT	100MF	20%	16V
C250	1-124-120-11	ELECT	220MF	20%	16V
C251	1-126-101-11	ELECT	100MF	20%	16V
C252	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C254	1-126-101-11	ELECT	100MF	20%	16V
C255	1-123-875-11	ELECT	10MF	20%	50V
C257	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C259	1-124-464-11	ELECT	0.22MF	20%	50V
C260	1-124-477-11	ELECT	47MF	20%	16V
C261	1-124-925-11	ELECT	2.2MF	20%	50V
C262	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C265	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C349	1-126-233-11	ELECT	22MF	20%	50V
C350	1-123-875-11	ELECT	10MF	20%	50V
C351	1-136-169-00	FILM	0.22MF	5%	50V
C352	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C353	1-123-875-11	ELECT	10MF	20%	50V
C354	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
		<FILTER>			
CM001	1-466-162-22	BLOCK, COM FILTER (CFB-4)			
		<TRIMMER>			
CT101	1-141-181-11	CAP,TRIMMER			
CT102	1-141-181-11	CAP,TRIMMER			
		<DIODE>			
D004	8-719-400-18	DIODE MA152WK			
D006	8-719-105-82	DIODE RD5.1M-B2			
D010	8-719-105-XX	DIODE RD6.2-B1			
D101	8-719-400-18	DIODE MA152WK			
D102	8-719-400-18	DIODE MA152WK			

REF.NO.	PART NO.	DESCRIPTION	REMARK
D103	8-719-400-18	DIODE MA152WK	
D201	8-719-900-95	DIODE V09G	
D202	8-719-104-34	DIODE 1S2836	
D203	8-719-104-34	DIODE 1S2836	
D204	8-719-400-18	DIODE MA152WK	
D206	8-719-400-18	DIODE MA152WK	
D207	8-719-400-18	DIODE MA152WK	
D208	8-719-105-45	DIODE RD3.3-B1	
D209	8-719-105-45	DIODE RD3.3-B1	
D210	8-719-400-18	DIODE MA152WK	
		<DELAY LINE>	
DL001	1-415-632-11	DELAY LINE, Y	
DL101	1-415-122-31	DELAY LINE, 1H (PAL)	
		<IC>	
IC001	8-759-340-52	IC TC4053BP	
IC002	8-759-947-20	IC TDA4555-V8	
IC003	8-752-034-85	IC CXA1216P	
IC004	8-759-946-99	IC TDA2595-V7	
IC005	8-759-240-53	IC HD14053BP	
IC006	8-759-232-64	IC TC74HC157AP	
IC007	8-759-232-21	IC TC74HC27AP	
IC008	8-759-604-39	IC M5F78M12	
IC009	8-759-979-16	IC CX-7916	
IC010	1-808-891-11	MODULE (SNY-9202)	
IC012	8-759-945-58	IC RC4558PC	
		<COIL>	
L001	1-410-478-11	INDUCTOR 47UH	
L101	1-404-584-11	COIL	
L102	1-404-554-11	COIL	
L103	1-404-539-11	COIL	
L104	1-404-554-11	COIL	
L105	1-404-554-11	COIL	
L106	1-410-466-41	INDUCTOR 4.7UH	
L107	1-408-406-00	INDUCTOR 5.6UH	
L108	1-410-478-11	INDUCTOR 47UH	
L109	1-410-209-51	INDUCTOR CHIP 27UH	
L201	1-459-155-00	COIL (WITH CORE) 45UH	
L202	1-459-155-00	COIL (WITH CORE) 45UH	
		<TRANSISTOR>	
Q001	8-729-230-49	TRANSISTOR 2SC2712	
Q002	8-729-216-22	TRANSISTOR 2SA1162	
Q003	8-729-230-49	TRANSISTOR 2SC2712	
Q004	8-729-230-49	TRANSISTOR 2SC2712	
Q005	8-729-230-49	TRANSISTOR 2SC2712	
Q006	8-729-230-49	TRANSISTOR 2SC2712	
Q007	8-729-230-49	TRANSISTOR 2SC2712	
Q008	8-729-230-49	TRANSISTOR 2SC2712	
Q009	8-729-230-49	TRANSISTOR 2SC2712	
Q010	8-729-230-49	TRANSISTOR 2SC2712	
Q012	8-729-901-01	TRANSISTOR DTC144EK	
Q013	8-729-901-01	TRANSISTOR DTC144EK	
Q014	8-729-230-49	TRANSISTOR 2SC2712	
Q015	8-729-230-49	TRANSISTOR 2SC2712	
Q016	8-729-901-01	TRANSISTOR DTC144EK	
Q017	8-729-901-01	TRANSISTOR DTC144EK	

BA

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q018	8-729-900-53	TRANSISTOR DTC114EK	
Q019	8-729-900-53	TRANSISTOR DTC114EK	
Q101	8-729-901-01	TRANSISTOR DTC144EK	
Q102	8-729-230-49	TRANSISTOR 2SC2712	
Q103	8-729-901-01	TRANSISTOR DTC144EK	
Q104	8-729-901-01	TRANSISTOR DTC144EK	
Q106	8-729-901-01	TRANSISTOR DTC144EK	
Q107	8-729-901-01	TRANSISTOR DTC144EK	
Q108	8-729-901-01	TRANSISTOR DTC144EK	
Q201	8-729-140-96	TRANSISTOR 2SD774-34	
Q202	8-729-216-22	TRANSISTOR 2SA1162	
Q203	8-729-216-22	TRANSISTOR 2SA1162	
Q204	8-729-216-22	TRANSISTOR 2SA1162	
Q205	8-729-230-49	TRANSISTOR 2SC2712	
Q206	8-729-230-49	TRANSISTOR 2SC2712	
Q207	8-729-230-49	TRANSISTOR 2SC2712	
Q208	8-729-230-49	TRANSISTOR 2SC2712	
Q209	8-729-230-49	TRANSISTOR 2SC2712	
Q210	8-729-216-22	TRANSISTOR 2SA1162	
Q211	8-729-230-49	TRANSISTOR 2SC2712	
Q212	8-729-116-06	TRANSISTOR 2SK160-K6	
Q213	8-729-230-49	TRANSISTOR 2SC2712	
Q214	8-729-116-06	TRANSISTOR 2SK160-K6	
Q215	8-729-230-49	TRANSISTOR 2SC2712	
Q216	8-729-116-06	TRANSISTOR 2SK160-K6	
Q217	8-729-230-49	TRANSISTOR 2SC2712	
Q218	8-729-216-22	TRANSISTOR 2SA1162	
Q219	8-729-216-22	TRANSISTOR 2SA1162	
Q220	8-729-230-49	TRANSISTOR 2SC2712	
Q221	8-729-230-49	TRANSISTOR 2SC2712	
Q222	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q223	8-729-230-49	TRANSISTOR 2SC2712	
Q224	8-729-901-01	TRANSISTOR DTC144EK	
Q225	8-729-901-01	TRANSISTOR DTC144EK	
Q226	8-729-901-01	TRANSISTOR DTC144EK	
Q347	8-729-901-01	TRANSISTOR DTC144EK	
Q348	8-729-901-01	TRANSISTOR DTC144EK	
Q349	8-729-901-01	TRANSISTOR DTC144EK	
Q350	8-729-901-01	TRANSISTOR DTC144EK	
Q351	8-729-230-49	TRANSISTOR 2SC2712	
Q352	8-729-230-49	TRANSISTOR 2SC2712	
Q355	8-729-230-49	TRANSISTOR 2SC2712	
Q356	8-729-901-01	TRANSISTOR DTC144EK	
Q357	8-729-901-01	TRANSISTOR DTC144EK	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R8	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R11	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R002	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R003	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R004	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R005	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R006	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R007	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R009	1-216-643-11	METAL CHIP 470 0.50% 1/10W	
R010	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R012	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R013	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R014	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R015	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R016	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R017	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R018	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R019	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R020	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R021	1-216-643-11	METAL CHIP 470 0.50% 1/10W	
R022	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R023	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R024	1-216-637-11	METAL CHIP 270 0.50% 1/10W	
R025	1-216-637-11	METAL CHIP 270 0.50% 1/10W	
R026	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R027	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R028	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R029	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R030	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R031	1-216-643-11	METAL CHIP 470 0.50% 1/10W	
R032	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R033	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R034	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R035	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R036	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R037	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R038	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R039	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R040	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R041	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R048	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R049	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R050	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R051	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R052	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R053	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R054	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R055	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R101	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R102	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R103	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R104	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R105	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R106	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R107	1-216-647-11	METAL CHIP 680 0.50% 1/10W	
R108	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R109	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R111	1-216-066-00	METAL GLAZE 5.1K 5% 1/10W	
R112	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R113	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R114	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R115	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R116	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R117	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R118	1-216-665-11	METAL CHIP 3.9K 0.50% 1/10W	
R119	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R120	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R122	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R123	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R124	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R126	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R127	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R128	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R140	1-216-689-11	METAL CHIP 39K 0.50% 1/10W	
R141	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R142	1-216-681-11	METAL CHIP 18K 0.50% 1/10W	
R143	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R144	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R145	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R146	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R149	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R201	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R202	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R204	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R205	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R206	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R207	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R208	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R209	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R210	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R211	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R212	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R213	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R216	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R217	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R220	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R221	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R222	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R224	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R225	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R226	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R227	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R228	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R229	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R230	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R231	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R232	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R233	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R234	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R235	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R236	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R237	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R238	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R239	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R240	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R241	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R242	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R243	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R244	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R245	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R246	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R247	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R248	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R249	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R250	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R251	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R252	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R253	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R254	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R255	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R256	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R257	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R258	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R259	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R260	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R261	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R262	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R263	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R264	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R265	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R266	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R267	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R268	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R269	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R270	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R271	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R272	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R273	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R274	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R275	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R276	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R277	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R278	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R279	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R280	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R281	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R282	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R283	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R284	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R285	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R286	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R287	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R288	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R289	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R290	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R291	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R292	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R293	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R294	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R295	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R296	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R297	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R298	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R299	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R300	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R301	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R303	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R304	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R305	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R306	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R307	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R308	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R309	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R310	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R340	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R341	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R375	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R376	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R377	1-249-393-11	CARBON	10	5%	1/4W	
R379	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R380	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R381	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R382	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R383	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R384	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R385	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R386	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R387	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R388	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R389	1-216-017-00	METAL GLAZE	47	5%	1/10W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV101	1-230-504-11	RES, ADJ, CARBON 220	
RV102	1-228-993-00	RES, ADJ, CARBON 4.7K	
RV201	1-228-995-00	RES, ADJ, CARBON 22K	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
RV202	1-228-996-00	RES, ADJ, CARBON 47K			
RV203	1-228-993-00	RES, ADJ, CARBON 4.7K			
RV204	1-226-775-11	RES, ADJ, METAL GLAZE 100K			
RV205	1-226-775-11	RES, ADJ, METAL GLAZE 100K			
		<SWITCH>			
SW1	1-570-859-11	SWITCH, SLIDE			
		<THERMISTER>			
TH101	1-800-071-XX	THERMISTER			
		<CRYSTAL>			
X101	1-567-413-11	VIBRATOR, CRYSTAL			
X102	1-527-789-00	VINRATOR, CRYSTAL			

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*A-1135-647-A BB BOARD, COMPLETE
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*1-564-595-11 PLUG, CONNECTOR 14P
*1-568-984-11 CONNECTOR, MALE 96P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C402	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C404	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C405	1-126-101-11	ELECT	100MF	20%	16V
C406	1-124-120-11	ELECT	220MF	20%	16V
C407	1-126-101-11	ELECT	100MF	20%	16V
C408	1-123-875-11	ELECT	10MF	20%	50V
C409	1-126-101-11	ELECT	100MF	20%	16V
C412	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C413	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C414	1-123-875-11	ELECT	10MF	20%	50V
C415	1-126-101-11	ELECT	100MF	20%	16V
C416	1-126-101-11	ELECT	100MF	20%	16V
C417	1-124-120-11	ELECT	220MF	20%	16V
C418	1-126-101-11	ELECT	100MF	20%	16V
C419	1-126-101-11	ELECT	100MF	20%	16V
C425	1-126-101-11	ELECT	100MF	20%	16V
C450	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C451	1-126-103-11	ELECT	470MF	20%	16V
C453	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C501	1-124-463-00	ELECT	0.1MF	20%	50V
C502	1-123-875-11	ELECT	10MF	20%	50V
C503	1-124-477-11	ELECT	47MF	20%	16V
C504	1-124-477-11	ELECT	47MF	20%	16V
C505	1-124-927-11	ELECT	4.7MF	20%	50V
C506	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C507	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C508	1-124-477-11	ELECT	47MF	20%	16V
C509	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C510	1-124-477-11	ELECT	47MF	20%	16V
C511	1-126-103-11	ELECT	470MF	20%	16V
C512	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C513	1-124-477-11	ELECT	47MF	20%	16V
C514	1-124-927-11	ELECT	4.7MF	20%	50V
C515	1-124-927-11	ELECT	4.7MF	20%	50V
C516	1-124-927-11	ELECT	4.7MF	20%	50V
C517	1-124-927-11	ELECT	4.7MF	20%	50V
C518	1-124-927-11	ELECT	4.7MF	20%	50V
C519	1-124-927-11	ELECT	4.7MF	20%	50V
C520	1-124-791-11	ELECT	1MF	20%	50V
C521	1-123-875-11	ELECT	10MF	20%	50V
C523	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C555	1-163-012-00	CERAMIC CHIP	0.0018MF	10%	50V
C650	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C651	1-124-660-11	ELECT	47MF	20%	50V
C652	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C653	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C654	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C655	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C656	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C657	1-136-169-00	FILM	0.22MF	5%	50V
C658	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C659	1-136-169-00	FILM	0.22MF	5%	50V
C660	1-124-660-11	ELECT	47MF	20%	50V
C661	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C662	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C663	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C664	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C665	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C666	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C667	1-136-169-00	FILM	0.22MF	5%	50V
C668	1-124-660-11	ELECT	47MF	20%	50V
C669	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C670	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C671	1-126-101-11	ELECT	100MF	20%	16V
C672	1-126-101-11	ELECT	100MF	20%	16V
C673	1-126-101-11	ELECT	100MF	20%	16V
C674	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C675	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C676	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C677	1-124-910-11	ELECT	47MF	20%	50V
C678	1-123-875-11	ELECT	10MF	20%	50V
C679	1-124-122-11	ELECT	100MF	20%	50V
C680	1-126-103-11	ELECT	470MF	20%	16V
C681	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C682	1-124-910-11	ELECT	47MF	20%	50V
C683	1-123-875-11	ELECT	10MF	20%	50V
C684	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C685	1-126-103-11	ELECT	470MF	20%	16V
C686	1-124-122-11	ELECT	100MF	20%	50V
C687	1-124-910-11	ELECT	47MF	20%	50V
C688	1-123-875-11	ELECT	10MF	20%	50V
C689	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C690	1-126-103-11	ELECT	470MF	20%	16V
C691	1-124-122-11	ELECT	100MF	20%	50V
C692	1-124-122-11	ELECT	100MF	20%	50V
C693	1-124-122-11	ELECT	100MF	20%	50V
C694	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C695	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C696	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C697	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C901	1-123-875-11	ELECT	10MF	20%	50V
C902	1-124-791-11	ELECT	1MF	20%	50V
C903	1-126-233-11	ELECT	22MF	20%	50V
C904	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C905	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C906	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C907	1-124-791-11	ELECT	1MF	20%	50V
C908	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C909	1-124-927-11	ELECT	4.7MF	20%	50V
C910	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V

REF.NO.	PART NO.	DESCRIPTION	REMARK
C911	1-124-791-11	ELECT 1MF 20% 50V	
C912	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C913	1-163-111-00	CERAMIC CHIP 56PF 5% 50V	
C914	1-126-101-11	ELECT 100MF 20% 16V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D401	8-719-900-95	DIODE V09G	
D402	8-719-900-95	DIODE V09G	
D450	8-719-400-18	DIODE MA152WK	
D451	8-719-400-18	DIODE MA152WK	
D452	8-719-105-28	DIODE RD2.4M-B	
D501	8-719-400-18	DIODE MA152WK	
D502	8-719-400-18	DIODE MA152WK	
D503	8-719-400-18	DIODE MA152WK	
D504	8-719-105-82	DIODE RD5.1M-B2	
D505	8-719-105-82	DIODE RD5.1M-B2	
D506	8-719-105-82	DIODE RD5.1M-B2	
D507	8-719-105-82	DIODE RD5.1M-B2	
D508	8-719-105-82	DIODE RD5.1M-B2	
D509	8-719-105-82	DIODE RD5.1M-B2	
D510	8-719-105-82	DIODE RD5.1M-B2	
D511	8-719-105-82	DIODE RD5.1M-B2	
D512	8-719-105-82	DIODE RD5.1M-B2	
D513	8-719-105-82	DIODE RD5.1M-B2	
D514	8-719-105-82	DIODE RD5.1M-B2	
D515	8-719-105-82	DIODE RD5.1M-B2	
D516	8-719-106-80	DIODE RD13M-B2	
D518	8-719-106-80	DIODE RD13M-B2	
D520	8-719-105-82	DIODE RD5.1M-B2	
D521	8-719-105-82	DIODE RD5.1M-B2	
D522	8-719-106-80	DIODE RD13M-B2	
D523	8-719-106-80	DIODE RD13M-B2	
D650	8-719-400-18	DIODE MA152WK	
D652	8-719-400-18	DIODE MA152WK	
D653	8-719-400-18	DIODE MA152WK	
D654	8-719-800-76	DIODE 1SS226	
D655	8-719-800-76	DIODE 1SS226	
D656	8-719-800-76	DIODE 1SS226	
D901	8-719-400-18	DIODE MA152WK	
D902	8-719-400-18	DIODE MA152WK	
D903	8-719-104-34	DIODE 1S2836	
D904	8-719-400-18	DIODE MA152WK	
D905	8-719-105-XX	DIODE RD6.2-B1	
D906	8-719-104-34	DIODE 1S2836	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC401	8-759-800-81	IC LA7016	
IC402	8-759-604-39	IC M5F78M12	
IC403	8-759-982-55	IC RC79M12FA	
IC404	8-759-240-53	IC HD14053BP	
IC405	8-759-232-64	IC TC74HC157AP	
IC407	8-759-232-64	IC TC74HC157AP	
IC408	8-759-240-53	IC HD14053BP	
IC409	8-759-240-53	IC HD14053BP	
IC410	8-759-945-58	IC RC4558PC	
IC411	8-759-945-58	IC RC4558PC	
IC412	8-759-145-27	IC UPC1406HA	
IC413	8-759-038-14	IC MC74HC4538N	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J101	1-566-980-21	CONNECTOR, ROUND TYPE 4P	
J102	1-537-257-11	TERMINAL BOARD, INPUT/OUTPUT	
J103	1-537-255-11	TERMINAL BOARD, INPUT/OUTPUT	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L401	1-459-155-00	COIL (WITH CORE) 45UH	
L402	1-459-155-00	COIL (WITH CORE) 45UH	
L403	1-459-155-00	COIL (WITH CORE) 45UH	
L404	1-459-155-00	COIL (WITH CORE) 45UH	
L405	1-410-671-31	INDUCTOR 47UH	
L650	1-410-482-31	INDUCTOR 100UH	
L651	1-410-482-31	INDUCTOR 100UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q401	8-729-140-96	TRANSISTOR 2SD774-34	
Q402	8-729-140-97	TRANSISTOR 2SB734-34	
Q450	8-729-230-49	TRANSISTOR 2SC2712	
Q451	8-729-230-49	TRANSISTOR 2SC2712	
Q452	8-729-230-49	TRANSISTOR 2SC2712	
Q453	8-729-901-00	TRANSISTOR DTC124EK	
Q454	8-729-901-00	TRANSISTOR DTC124EK	
Q456	8-729-230-49	TRANSISTOR 2SC2712	
Q457	8-729-216-22	TRANSISTOR 2SA1162	
Q501	8-729-230-49	TRANSISTOR 2SC2712	
Q502	8-729-230-49	TRANSISTOR 2SC2712	
Q503	8-729-230-49	TRANSISTOR 2SC2712	
Q504	8-729-230-49	TRANSISTOR 2SC2712	
Q505	8-729-901-01	TRANSISTOR DTC144EK	
Q506	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q507	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q508	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q509	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q510	8-729-901-01	TRANSISTOR DTC144EK	
Q511	8-729-901-01	TRANSISTOR DTC144EK	
Q512	8-729-230-49	TRANSISTOR 2SC2712	
Q513	8-729-230-49	TRANSISTOR 2SC2712	
Q514	8-729-230-49	TRANSISTOR 2SC2712	
Q515	8-729-230-49	TRANSISTOR 2SC2712	
Q516	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q517	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q518	8-729-230-49	TRANSISTOR 2SC2712	
Q519	8-729-230-49	TRANSISTOR 2SC2712	
Q520	8-729-901-00	TRANSISTOR DTC124EK	
Q521	8-729-230-49	TRANSISTOR 2SC2712	
Q522	8-729-901-01	TRANSISTOR DTC144EK	
Q523	8-729-230-49	TRANSISTOR 2SC2712	
Q524	8-729-901-01	TRANSISTOR DTC144EK	
Q525	8-729-901-01	TRANSISTOR DTC144EK	
Q526	8-729-901-01	TRANSISTOR DTC144EK	
Q527	8-729-901-01	TRANSISTOR DTC144EK	
Q528	8-729-901-01	TRANSISTOR DTC144EK	
Q529	8-729-901-01	TRANSISTOR DTC144EK	
Q530	8-729-901-01	TRANSISTOR DTC144EK	
Q531	8-729-901-01	TRANSISTOR DTC144EK	
Q537	8-729-901-01	TRANSISTOR DTC144EK	
Q538	8-729-901-01	TRANSISTOR DTC144EK	
Q539	8-729-901-01	TRANSISTOR DTC144EK	
Q540	8-729-901-01	TRANSISTOR DTC144EK	
Q541	8-729-320-62	TRANSISTOR 2SD789-34	
Q542	8-729-901-01	TRANSISTOR DTC144EK	
Q545	8-729-216-22	TRANSISTOR 2SA1162	
Q650	8-729-902-96	TRANSISTOR FMS1	
Q651	8-729-902-96	TRANSISTOR FMS1	

BB

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q652	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q653	8-729-901-00	TRANSISTOR DTC124EK	
Q654	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q655	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q656	8-729-901-00	TRANSISTOR DTC124EK	
Q657	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q658	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q659	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q660	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q661	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q662	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q663	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q664	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q665	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q666	8-729-116-06	TRANSISTOR 2SK160-K6	
Q667	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q668	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q669	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q670	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q671	8-729-901-00	TRANSISTOR DTC124EK	
Q672	8-729-901-00	TRANSISTOR DTC124EK	
Q673	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q674	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q675	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q676	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q677	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q678	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q679	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q680	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q681	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q682	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q683	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q684	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q685	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q686	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q687	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q688	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q689	8-729-901-00	TRANSISTOR DTC124EK	
Q690	8-729-901-00	TRANSISTOR DTC124EK	
Q691	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q692	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q693	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q694	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q695	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q696	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q697	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q698	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q699	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q701	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q702	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q703	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q704	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q705	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q706	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q707	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q708	8-729-901-00	TRANSISTOR DTC124EK	
Q709	8-729-901-00	TRANSISTOR DTC124EK	
Q710	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q711	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q712	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q713	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q714	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q715	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q716	8-729-107-31	TRANSISTOR 2SC3545-T43	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q717	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q718	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q719	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q720	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q721	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q722	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q723	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q724	8-729-116-06	TRANSISTOR 2SK160-K6	
Q725	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q726	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q727	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q728	8-729-923-06	TRANSISTOR FMW-8	
Q729	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q730	8-729-923-06	TRANSISTOR FMW-8	
Q731	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q732	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q733	8-729-901-00	TRANSISTOR DTC124EK	
Q734	8-729-230-49	TRANSISTOR 2SC2712	
Q735	8-729-230-49	TRANSISTOR 2SC2712	
Q736	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q737	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q738	8-729-116-06	TRANSISTOR 2SK160-K6	
Q739	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q740	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q901	8-729-903-10	TRANSISTOR FMW1	
Q902	8-729-903-10	TRANSISTOR FMW1	
Q903	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q904	8-729-901-00	TRANSISTOR DTC124EK	
Q905	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q906	8-729-162-13	TRANSISTOR 2SC1621	
Q907	8-729-902-96	TRANSISTOR FMS1	
Q908	8-729-230-49	TRANSISTOR 2SC2712	
Q909	8-729-216-22	TRANSISTOR 2SA1162	
Q910	8-729-902-96	TRANSISTOR FMS1	
Q911	8-729-162-13	TRANSISTOR 2SC1621	
Q912	8-729-230-49	TRANSISTOR 2SC2712	
Q913	8-729-216-22	TRANSISTOR 2SA1162	
Q914	8-729-216-22	TRANSISTOR 2SA1162	
Q915	8-729-902-96	TRANSISTOR FMS1	
Q916	8-729-216-22	TRANSISTOR 2SA1162	
Q917	8-729-216-22	TRANSISTOR 2SA1162	
Q918	8-729-230-49	TRANSISTOR 2SC2712	
Q919	8-729-230-49	TRANSISTOR 2SC2712	
Q920	8-729-230-49	TRANSISTOR 2SC2712	
Q921	8-729-230-49	TRANSISTOR 2SC2712	
Q922	8-729-216-22	TRANSISTOR 2SA1162	
Q923	8-729-216-22	TRANSISTOR 2SA1162	
Q924	8-729-230-49	TRANSISTOR 2SC2712	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R401	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R403	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R450	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R451	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R452	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R453	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R454	1-216-643-11	METAL CHIP 470 0.50% 1/10W	
R455	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R456	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R459	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R460	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R461	1-216-025-00	METAL GLAZE 100 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R462	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R463	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R464	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R466	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R467	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R468	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R469	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R470	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R471	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R472	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R473	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R474	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R501	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R502	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R503	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R504	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R505	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R506	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R507	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R508	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R509	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R510	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R511	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R512	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R513	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R514	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R515	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R516	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R517	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R518	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R519	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R520	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R521	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R522	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R523	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R524	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R525	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R526	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R527	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R528	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R529	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R530	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R531	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R532	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R533	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R534	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R535	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R536	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R537	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R538	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R539	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R540	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R541	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R542	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R543	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R544	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R545	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R546	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R547	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R548	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R549	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R550	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R551	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R552	1-216-025-00	METAL GLAZE	100	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R553	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R554	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R555	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R556	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R557	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R558	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R559	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R560	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R561	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R562	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R563	1-216-637-11	METAL CHIP	270	0.50%	1/10W	
R564	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R565	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R566	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R567	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R568	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R569	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R570	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R571	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R572	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R573	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R574	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R575	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R576	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R577	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R578	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R579	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R580	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R581	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R584	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R585	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R586	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R587	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R588	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R589	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R590	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R591	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R592	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R593	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R594	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R595	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R596	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R597	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R598	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R599	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R600	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R601	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R602	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R603	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R604	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R605	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R606	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R607	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R608	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R609	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R610	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R611	1-249-377-11	CARBON	0.47	5%	1/4W	F
R650	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R651	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R652	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R653	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R654	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R655	1-216-643-11	METAL CHIP	470	0.50%	1/10W	

BB

REF.NO.	PART NO.	DESCRIPTION				REMARK
R656	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R657	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R658	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R659	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R660	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R661	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R662	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R663	1-216-629-11	METAL CHIP	120	0.50%	1/10W	
R664	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R665	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R666	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R667	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R668	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R669	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R670	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R671	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R672	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R673	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R674	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R675	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R676	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R677	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R678	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R679	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R680	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R681	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R682	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R683	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R684	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R685	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R686	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R687	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R688	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R689	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R690	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R691	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R692	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R693	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R694	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R695	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R696	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R697	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R698	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R699	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R701	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R702	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R703	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R704	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R705	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R706	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R707	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R708	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R709	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R710	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R711	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R712	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R713	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R714	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R715	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R716	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R717	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R718	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R719	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R720	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R721	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R722	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R723	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R724	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R725	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R726	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R727	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R728	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R729	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R730	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R731	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R732	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R733	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R734	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R735	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R736	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R737	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R738	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R739	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R740	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R741	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R742	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R743	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R744	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R745	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R746	1-216-625-11	METAL CHIP	82	0.50%	1/10W	
R747	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R748	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R749	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R750	1-216-629-11	METAL CHIP	120	0.50%	1/10W	
R751	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R752	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R753	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R754	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R755	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R756	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R757	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R758	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R759	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R760	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R761	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R762	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R763	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R764	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R765	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R766	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R767	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R768	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R769	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R770	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R771	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R772	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R773	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R774	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R775	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R776	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R777	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R778	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R779	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R780	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R781	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R782	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R783	1-216-624-11	METAL CHIP	75	0.50%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R784	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R785	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R786	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R787	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R788	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R789	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R790	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R791	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R792	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R793	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R794	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R795	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R796	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R797	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R798	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R799	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R801	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R802	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R803	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R804	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R805	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R806	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R807	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R808	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R809	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R810	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R811	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R812	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R813	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R814	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R815	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R816	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R817	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R818	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R819	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R820	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R821	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R822	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R823	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R824	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R825	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R826	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R827	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R828	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R829	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R830	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R831	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R832	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R833	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R834	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R835	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R836	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R837	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R901	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R902	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R903	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R904	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R905	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R906	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R907	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R908	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R909	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R910	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R911	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R912	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R913	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R914	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R915	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R917	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R918	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R919	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R920	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R921	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R922	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R923	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R924	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R925	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R926	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R927	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R928	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R929	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R930	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R931	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R932	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R933	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R934	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R935	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R936	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R937	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R938	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R939	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R940	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R941	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R942	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R943	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R944	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R945	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R961	1-216-025-00	METAL GLAZE	100	5%	1/10W	

<RELAY>

RL401	1-515-757-11	RELAY
RL402	1-515-757-11	RELAY
RL403	1-515-757-11	RELAY

<VARIABLE RESISTOR>

RV901	1-228-994-00	RES, ADJ, CARBON 10K

<SWITCH>

SW1	1-570-859-11	SWITCH, SLIDE

****

*1-634-631-11 PB BOARD
****

*1-564-506-11	PLUG, CONNECTOR 3P
*4-341-752-01	EYELET

<CAPACITOR>

C501	1-136-103-00	FILM	0.1MF	5%	200V
C502	1-136-103-00	FILM	0.1MF	5%	200V

<FLYBACK>

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
FBT1	⚠.1-439-466-11	TRANSFORMER ASSY, FLYBACK(NX-2500)	
FBT2	⚠.1-439-466-21	TRANSFORMER ASSY, FLYBACK(NX-2502)	

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION
NL501	1-519-108-XX	LAMP, NEON
NL502	1-519-108-XX	LAMP, NEON

****

REF.NO.	PART NO.	DESCRIPTION
	*A-1195-033-A	PA BOARD, COMPLETE ******************
	*1-506-348-XX	PIN, CONNECOTR 5P
	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
	*1-564-518-11	PLUG, CONNECTOR 3P
	*1-564-520-11	PLUG, CONNECTOR 5P
	*1-564-521-11	PLUG, CONNECTOR 6P
	*1-564-523-11	PLUG, CONNECTOR 8P
	*1-564-526-11	PLUG, CONNECTOR 11P
	*1-564-528-11	PLUG, CONNECTOR 13P
	*4-341-751-01	EYELET
	4-382-854-11	SCREW (M3X10), P, SW (+)
	*4-391-515-11	SHEET (A), INSULATOR

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1	1-124-791-11	ELECT	1MF	20%	50V
C2	1-124-791-11	ELECT	1MF	20%	50V
C3	1-124-927-11	ELECT	4.7MF	20%	50V
C4	1-124-927-11	ELECT	4.7MF	20%	50V
C5	1-124-927-11	ELECT	4.7MF	20%	50V
C6	1-124-927-11	ELECT	4.7MF	20%	50V
C7	1-123-875-11	ELECT	10MF	20%	50V
C8	1-136-153-00	FILM	0.01MF	5%	50V
C9	1-124-963-11	ELECT	33MF	20%	16V
C10	1-124-925-11	ELECT	2.2MF	20%	50V
C11	1-136-165-00	FILM	0.1MF	5%	50V
C12	1-123-875-11	ELECT	10MF	20%	50V
C13	1-136-169-00	FILM	0.22MF	5%	50V
C14	1-123-875-11	ELECT	10MF	20%	50V
C15	1-124-119-00	ELECT	330MF	20%	16V
C16	1-102-824-00	CERAMIC	470PF	5%	50V
C17	1-136-165-00	FILM	0.1MF	5%	50V
C18	1-136-165-00	FILM	0.1MF	5%	50V
C19	1-136-165-00	FILM	0.1MF	5%	50V
C20	1-136-165-00	FILM	0.1MF	5%	50V
C21	1-126-101-11	ELECT	100MF	20%	16V
C22	1-136-169-00	FILM	0.22MF	5%	50V
C23	1-130-475-00	MYLAR	0.0022MF	5%	50V
C24	1-130-475-00	MYLAR	0.0022MF	5%	50V
C25	1-102-973-00	CERAMIC	100PF	5%	50V
C26	1-123-875-11	ELECT	10MF	20%	50V
C27	1-124-925-11	ELECT	2.2MF	20%	50V
C28	1-136-159-00	FILM	0.033MF	5%	50V
C29	1-124-927-11	ELECT	4.7MF	20%	50V
C30	1-101-004-00	CERAMIC	0.01MF		50V
C31	1-101-004-00	CERAMIC	0.01MF		50V
C32	1-102-973-00	CERAMIC	100PF	5%	50V
C33	1-102-973-00	CERAMIC	100PF	5%	50V
C34	1-102-973-00	CERAMIC	100PF	5%	50V
C35	1-101-884-00	CERAMIC	56PF	5%	50V
C36	1-136-165-00	FILM	0.1MF	5%	50V
C37	1-102-030-00	CERAMIC	330PF	10%	500V
C38	1-124-791-11	ELECT	1MF	20%	50V
C39	1-124-791-11	ELECT	1MF	20%	50V
C40	1-108-700-11	MYLAR	0.047MF	10%	200V
C41	1-108-704-11	MYLAR	0.1MF	10%	200V
C42	1-124-791-11	ELECT	1MF	20%	50V
C43	1-102-973-00	CERAMIC	100PF	5%	50V
C44	1-162-117-00	CERAMIC	100PF	10%	500V
C45	1-123-875-11	ELECT	10MF	20%	50V
C46	1-126-101-11	ELECT	100MF	20%	16V
C47	1-124-927-11	ELECT	4.7MF	20%	50V
C51	⚠.1-136-948-11	FILM	24000MF	3%	1.6KV
C52	1-123-024-21	ELECT	33MF		160V
C53	1-136-134-00	FILM	1.5MF	5%	400V
C54	⚠.1-136-134-11	FILM	1.5MF	5%	400V
C55	1-126-233-11	ELECT	22MF	20%	50V
C56	1-124-925-11	ELECT	2.2MF	20%	50V
C58	1-124-477-11	ELECT	47MF	20%	16V
C59	1-136-165-00	FILM	0.1MF	5%	50V
C60	1-136-153-00	FILM	0.01MF	5%	50V
C61	1-136-153-00	FILM	0.01MF	5%	50V
C62	1-136-165-00	FILM	0.1MF	5%	50V
C63	1-136-165-00	FILM	0.1MF	5%	50V
C64	1-136-153-00	FILM	0.01MF	5%	50V
C65	1-136-103-00	FILM	0.1MF	5%	200V
C67	1-136-153-00	FILM	0.01MF	5%	50V
C68	1-136-153-00	FILM	0.01MF	5%	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D3	8-719-911-19	DIODE 1SS119
D4	8-719-911-19	DIODE 1SS119
D5	8-719-109-85	DIODE RD5.1ES-B2
D6	8-719-911-19	DIODE 1SS119
D7	8-719-911-19	DIODE 1SS119
D8	8-719-911-19	DIODE 1SS119
D9	8-719-911-19	DIODE 1SS119
D10	8-719-109-85	DIODE RD5.1ES-B2
D11	8-719-911-19	DIODE 1SS119
D12	8-719-109-85	DIODE RD5.1ES-B2
D13	8-719-911-19	DIODE 1SS119
D14	8-719-110-17	DIODE RD10ES-B2
D16	8-719-911-19	DIODE 1SS119
D18	8-719-911-19	DIODE 1SS119
D20	8-719-945-81	DIODE ERC06-15SA
D21	8-719-945-81	DIODE ERC06-15SA
D22	8-719-300-80	DIODE RU-1C
D23	8-719-900-26	DIODE ERD29-08J
D24	8-719-911-19	DIODE 1SS119
D25	8-719-911-19	DIODE 1SS119
D28	8-719-911-19	DIODE 1SS119
D29	8-719-911-19	DIODE 1SS119
D31	8-719-911-19	DIODE 1SS119

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC1	8-759-990-82	IC TL082CP
IC2	8-759-103-93	IC UPC393C
IC3	8-759-103-93	IC UPC393C
IC4	8-759-103-93	IC UPC393C
IC5	8-759-604-39	IC M5F78M12
IC6	8-759-100-75	IC UPC1394C
IC7	8-759-240-40	IC TC4040BP
IC8	8-759-045-72	IC MC14572UBCP
IC9	8-759-908-15	IC TL431CLP

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

PA

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<COIL>				
L1	1-459-614-11	COIL, CHOKE 90UH				
L2	1-459-863-11	COIL, CHOKE 2.1MMH				
L3	⚠.1-459-863-11	COIL, CHOKE 2.1MMH				
L4	⚠.1-459-863-11	COIL, CHOKE 2.1MMH				
L5	1-459-155-00	COIL (WITH CORE) 45UH				
L6	1-459-155-00	COIL (WITH CORE) 45UH				
		<NEON LAMP>				
NL1	1-519-108-XX	LAMP, NEON				
		<TRANSISTOR>				
Q1	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q2	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q3	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q4	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q5	8-729-119-80	TRANSISTOR 2SC2688-LK				
Q6	8-729-119-80	TRANSISTOR 2SC2688-LK				
Q7	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q8	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q10	8-729-805-07	TRANSISTOR 2SD1887-CA				
Q11	8-729-201-62	TRANSISTOR 2SC2555				
Q12	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q13	8-729-904-34	TRANSISTOR DTA114TS				
Q14	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q15	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q16	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q17	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q18	8-729-804-48	TRANSISTOR 2SC3675				
Q19	8-719-801-88	2SA1381				
Q20	8-729-119-76	TRANSISTOR 2SA1175-HFE				
		<RESISTOR>				
⧓R1	⚠.	METAL			1/6W	
R2	1-249-433-11	CARBON	22K	5%	1/4W	
R3	1-249-439-11	CARBON	68K	5%	1/4W	
⧓R4	⚠.	METAL			1/6W	
R5	1-249-433-11	CARBON	22K	5%	1/4W	
R6	1-249-439-11	CARBON	68K	5%	1/4W	
R7	1-249-433-11	CARBON	22K	5%	1/4W	
R8	1-249-433-11	CARBON	22K	5%	1/4W	
R9	1-249-423-11	CARBON	3.3K	5%	1/4W	
R10	1-249-429-11	CARBON	10K	5%	1/4W	
R11	1-249-435-11	CARBON	33K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-429-11	CARBON	10K	5%	1/4W	
R14	1-215-453-00	METAL	22K	1%	1/6W	
R15	1-215-453-00	METAL	22K	1%	1/6W	
R16	1-249-433-11	CARBON	22K	5%	1/4W	
R17	1-249-429-11	CARBON	10K	5%	1/4W	
R18	1-249-429-11	CARBON	10K	5%	1/4W	
R19	1-249-429-11	CARBON	10K	5%	1/4W	
R20	1-249-433-11	CARBON	22K	5%	1/4W	
R21	1-249-441-11	CARBON	100K	5%	1/4W	
R22	1-215-463-00	METAL	56K	1%	1/6W	
R23	1-215-455-00	METAL	27K	1%	1/6W	
R24	1-249-429-11	CARBON	10K	5%	1/4W	
R25	1-249-435-11	CARBON	33K	5%	1/4W	
R26	1-249-417-11	CARBON	1K	5%	1/4W	
R28	1-215-423-00	METAL	1.2K	1%	1/6W	
⧓R29	⚠.	METAL			1/6W	
⧓R30	⚠.	METAL			1/6W	
R31	1-249-429-11	CARBON	10K	5%	1/4W	
R32	1-215-473-00	METAL	150K	1%	1/6W	
⧓R33	⚠.	CARBON			1/4W	
⧓R34	⚠.	CARBON			1/4W	
R35	1-249-417-11	CARBON	1K	5%	1/4W	
R36	1-249-423-11	CARBON	3.3K	5%	1/4W	
R37	1-215-469-00	METAL	100K	1%	1/6W	
R38	1-215-453-00	METAL	22K	1%	1/6W	
R39	1-215-455-00	METAL	27K	1%	1/6W	
R40	1-249-417-11	CARBON	1K	5%	1/4W	
⧓R41	⚠.	CARBON			1/4W	
⧓R42	⚠.	CARBON			1/4W	
R43	1-215-461-00	METAL	47K	1%	1/6W	
R44	1-215-432-00	METAL	3K	1%	1/6W	
R45	1-215-432-00	METAL	3K	1%	1/6W	
R46	1-215-432-00	METAL	3K	1%	1/6W	
R47	1-215-432-00	METAL	3K	1%	1/6W	
R48	1-215-469-00	METAL	100K	1%	1/6W	
R49	1-215-469-00	METAL	100K	1%	1/6W	
R50	1-215-469-00	METAL	100K	1%	1/6W	
R53	1-249-419-11	CARBON	1.5K	5%	1/4W	
R55	1-215-429-00	METAL	2.2K	1%	1/6W	
R56	1-215-445-00	METAL	10K	1%	1/6W	
R57	1-249-441-11	CARBON	100K	5%	1/4W	
R58	1-249-441-11	CARBON	100K	5%	1/4W	
R59	1-249-413-11	CARBON	470	5%	1/4W	
R60	1-249-437-11	CARBON	47K	5%	1/4W	
R61	1-215-443-00	METAL	8.2K	1%	1/6W	
R62	1-215-455-00	METAL	27K	1%	1/6W	
R63	1-249-431-11	CARBON	15K	5%	1/4W	
R64	1-249-417-11	CARBON	1K	5%	1/4W	
R65	1-249-435-11	CARBON	33K	5%	1/4W	
R66	1-249-441-11	CARBON	100K	5%	1/4W	
R67	1-247-903-00	CARBON	1M	5%	1/4W	
R68	1-249-417-11	CARBON	1K	5%	1/4W	
R69	1-249-423-11	CARBON	3.3K	5%	1/4W	
R70	1-249-429-11	CARBON	10K	5%	1/4W	
R71	1-249-417-11	CARBON	1K	5%	1/4W	
R72	1-249-423-11	CARBON	3.3K	5%	1/4W	
R73	1-249-423-11	CARBON	3.3K	5%	1/4W	
R74	1-249-417-11	CARBON	1K	5%	1/4W	
R75	1-249-417-11	CARBON	1K	5%	1/4W	
R76	1-249-417-11	CARBON	1K	5%	1/4W	
R77	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R78	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R79	1-249-425-11	CARBON	4.7K	5%	1/4W	
R80	1-249-423-11	CARBON	3.3K	5%	1/4W	
R81	1-247-725-11	CARBON	10K	5%	1/4W	F
R82	1-249-441-11	CARBON	100K	5%	1/4W	
R86	1-249-460-11	CARBON	15K	5%	1/4W	F
R87	1-249-421-11	CARBON	2.2K	5%	1/4W	
R88	1-249-441-11	CARBON	100K	5%	1/4W	
R89	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R90	1-249-417-11	CARBON	1K	5%	1/4W	
R91	1-249-417-11	CARBON	1K	5%	1/4W	
R92	1-247-903-00	CARBON	1M	5%	1/4W	
R93	1-249-439-11	CARBON	68K	5%	1/4W	
R95	1-215-461-00	METAL	47K	1%	1/6W	
R96	1-249-437-11	CARBON	47K	5%	1/4W	
R97	1-249-433-11	CARBON	22K	5%	1/4W	
R99	1-249-425-11	CARBON	4.7K	5%	1/4W	

PA F QM RC

REF.NO.	PART NO.	DESCRIPTION				REMARK
R101	1-249-405-11	CARBON	100	5%	1/4W	
R102	1-249-441-11	CARBON	100K	5%	1/4W	
R103	1-249-417-11	CARBON	1K	5%	1/4W	
R104	1-249-441-11	CARBON	100K	5%	1/4W	
R105	1-249-429-11	CARBON	10K	5%	1/4W	
R106	1-249-425-11	CARBON	4.7K	5%	1/4W	
R107	1-249-433-11	CARBON	22K	5%	1/4W	
R108	1-249-441-11	CARBON	100K	5%	1/4W	
R109	1-249-437-11	CARBON	47K	5%	1/4W	
R110	1-249-441-11	CARBON	100K	5%	1/4W	
R111	1-249-437-11	CARBON	47K	5%	1/4W	
R112	1-247-715-11	CARBON	1.5K	5%	1/4W	F
R113	1-249-405-11	CARBON	100	5%	1/4W	
R114	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R116	1-214-782-00	METAL	160K	1%	1/4W	
R117	1-247-725-11	CARBON	10K	5%	1/4W	F
R118	1-202-730-00	SOLID	8.2M	10%	1/2W	
R119	1-215-432-00	METAL	3K	1%	1/6W	
R120	1-215-432-00	METAL	3K	1%	1/6W	
R121	1-215-475-00	METAL	180K	1%	1/6W	
R122	1-215-475-00	METAL	180K	1%	1/6W	
R123	1-249-429-11	CARBON	10K	5%	1/4W	
R124	1-249-425-11	CARBON	4.7K	5%	1/4W	
R125	1-249-429-11	CARBON	10K	5%	1/4W	
R126	1-249-417-11	CARBON	1K	5%	1/4W	
R127	1-249-405-11	CARBON	100	5%	1/4W	
~~R128~~	~~1-249-405-11~~	~~CARBON~~	~~100~~	~~5%~~	~~1/4W~~	
R129	1-249-429-11	CARBON	10K	5%	1/4W	
R130	1-215-920-11	METAL OXIDE	3.3K	5%	3W	F

<TRANSFORMER>

T1	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE
T2	1-437-131-00	TRANSFORMER, DRIVE

<CRYSTAL>

X1	1-578-768-11	VIBLATOR, CERAMIC

****

*1-634-040-11 F BOARD
****

*1-564-507-11 PLUG, CONNECTOR 4P
*1-564-509-11 PLUG, CONNECTOR 6P

<CAPACITOR>

C040	1-124-607-11	ELECT	2200MF	20%	50V
C041	1-124-607-11	ELECT	2200MF	20%	50V
C042	1-124-607-11	ELECT	2200MF	20%	50V
C043	1-124-607-11	ELECT	2200MF	20%	50V
C044	1-124-607-11	ELECT	2200MF	20%	50V
C045	1-124-607-11	ELECT	2200MF	20%	50V

<RESISTOR>

R070	1-205-742-11	WIREWOUND	4.7	5%	7W
R071	1-205-742-11	WIREWOUND	4.7	5%	7W
R072	1-205-742-11	WIREWOUND	4.7	5%	7W
R073	1-205-742-11	WIREWOUND	4.7	5%	7W

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*1-629-829-11 QM BOARD
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-564-509-11	PLUG, CONNECTOR 6P	
	*1-564-515-11	PLUG, CONNECTOR 12P	
	*1-568-985-11	CONNECTOR, FEMALE 64P	

<JACK>

J7	*1-526-575-00	SOCKET, PLUG 1P
J8	*1-526-575-00	SOCKET, PLUG 1P
J9	*1-526-575-00	SOCKET, PLUG 1P

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*1-631-359-11 RC BOARD
****

*1-564-519-11 PLUG, CONNECTOR 4P

<CAPACITOR>

C1	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C2	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C3	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C4	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C5	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C6	1-123-306-00	ELECT 47MF	20%	6.3V

<DIODE>

D1	8-719-901-44	DIODE SLP144B
D2	8-719-107-82	DIODE SE303AY
D3	8-719-107-82	DIODE SE303AY
D4	8-719-801-48	DIODE 1SS193
D5	8-719-801-48	DIODE 1SS193

<IC>

IC1	8-759-631-86	IC M50461-152SP

<TRANSISTOR>

Q1	8-729-216-22	TRANSISTOR 2SA1162
Q2	8-729-230-49	TRANSISTOR 2SC2712
Q3	8-729-231-80	TRANSISTOR 2SC2859-Y
Q4	8-729-231-80	TRANSISTOR 2SC2859-Y
Q5	8-729-230-49	TRANSISTOR 2SC2712
Q6	8-729-216-22	TRANSISTOR 2SA1162
Q7	8-729-230-49	TRANSISTOR 2SC2712
Q8	8-729-101-07	TRANSISTOR 2SB798-DL

<RESISTOR>

R1	1-216-017-00	METAL GLAZE	47	5%	1/10W
R2	1-216-041-00	METAL GLAZE	470	5%	1/10W
R3	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R4	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R5	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R6	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R7	1-216-027-00	METAL GLAZE	120	5%	1/10W
R8	1-216-138-00	METAL GLAZE	3.3	5%	1/8W
R9	1-216-138-00	METAL GLAZE	3.3	5%	1/8W
R10	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R11	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R13	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R14	1-216-081-00	METAL GLAZE	22K	5%	1/10W

RC

RCA RCB RCC RCD CF-1 CF-2 CB(R)

REF.NO.	PART NO.	DESCRIPTION				REMARK
R16	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R17	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R18	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R19	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R20	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R21	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R22	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R23	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R24	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R25	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R26	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R27	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R28	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R29	1-216-028-00	METAL GLAZE	130	5%	1/10W	
R30	1-216-028-00	METAL GLAZE	130	5%	1/10W	

<CRYSTAL>

X1	1-527-476-00	OSCILLATOR, CERAMIC

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*1-631-356-11 RCA BOARD
****

D5	8-719-938-67	DIODE GL-3EG8
D6	8-719-938-67	DIODE GL-3EG8
D7	8-719-938-67	DIODE GL-3EG8
D8	8-719-938-67	DIODE GL-3EG8
D9	8-719-938-67	DIODE GL-3EG8

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*1-631-357-11 RCB BOARD
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D10	8-719-938-67	DIODE GL-3EG8
D11	8-719-938-67	DIODE GL-3EG8
D12	8-719-938-67	DIODE GL-3EG8
D13	8-719-938-67	DIODE GL-3EG8
D14	8-719-938-67	DIODE GL-3EG8

****

*1-631-358-11 RCC BOARD
****

D15	8-719-938-67	DIODE GL-3EG8
D16	8-719-938-67	DIODE GL-3EG8

****

*1-631-493-11 RCD BOARD
****

D1	8-719-938-67	DIODE GL-3EG8

****

*1-629-819-11 CF-1 BOARD
****

*1-575-136-11 CONNECTOR ASSY, FLAT CABLE

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C1	1-236-164-11	ENCAPSULATED COMPONENT	
C2	1-236-164-11	ENCAPSULATED COMPONENT	
C3	1-236-164-11	ENCAPSULATED COMPONENT	
C4	1-236-101-11	ENCAPSULATED COMPONENT	
C5	1-236-164-11	ENCAPSULATED COMPONENT	
C6	1-236-101-11	ENCAPSULATED COMPONENT	
C7	1-236-164-11	ENCAPSULATED COMPONENT	
C8	1-236-101-11	ENCAPSULATED COMPONENT	
C9	1-236-164-11	ENCAPSULATED COMPONENT	
C10	1-236-164-11	ENCAPSULATED COMPONENT	
C11	1-236-164-11	ENCAPSULATED COMPONENT	
C12	1-236-164-11	ENCAPSULATED COMPONENT	
C13	1-236-164-11	ENCAPSULATED COMPONENT	
C14	1-236-164-11	ENCAPSULATED COMPONENT	
C15	1-236-164-11	ENCAPSULATED COMPONENT	
C16	1-236-164-11	ENCAPSULATED COMPONENT	
C17	1-236-164-11	ENCAPSULATED COMPONENT	
C18	1-236-164-11	ENCAPSULATED COMPONENT	
C19	1-236-164-11	ENCAPSULATED COMPONENT	
C20	1-236-164-11	ENCAPSULATED COMPONENT	
C21	1-236-164-11	ENCAPSULATED COMPONENT	
C22	1-236-101-11	ENCAPSULATED COMPONENT	
C23	1-236-101-11	ENCAPSULATED COMPONENT	
C24	1-236-164-11	ENCAPSULATED COMPONENT	

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*1-629-820-11 CF-2 BOARD
****

*1-564-505-11 PLUG, CONNECTOR 2P
*1-564-514-11 PLUG, CONNECTOR 11P
*1-564-528-11 PLUG, CONNECTOR 13P

<CAPACITOR>

C1	1-101-821-00	CERAMIC	0.0022MF	500V
C4	1-101-821-00	CERAMIC	0.0022MF	500V
C6	1-101-821-00	CERAMIC	0.0022MF	500V
C8	1-101-821-00	CERAMIC	0.0022MF	500V
C10	1-101-821-00	CERAMIC	0.0022MF	500V

<FILTER>

C2	1-236-071-11	ENCAPSULATED COMPONENT
C3	1-236-164-11	ENCAPSULATED COMPONENT
C5	1-236-071-11	ENCAPSULATED COMPONENT
C7	1-236-071-11	ENCAPSULATED COMPONENT
C9	1-236-071-11	ENCAPSULATED COMPONENT
C11	1-236-071-11	ENCAPSULATED COMPONENT
C12	1-236-164-11	ENCAPSULATED COMPONENT

****

*1-629-826-11 CBR BOARD
****

*1-506-371-00 PIN, CONNECTOR 2P
*1-508-784-00 PIN, CONNECTOR (5MM PITCH) 1P
1-526-767-00 SOCKET, CRT
*1-564-507-11 PLUG, CONNECTOR 4P
1-575-098-11 LEAD ASSY, SIELD HIGH VOLTAGE

<CAPACITOR>

C301	1-162-114-00	CERAMIC	0.0047MF	2KV

<COIL>

L303	1-408-401-00	INDUCTOR	2.2UH

<NEON LAMP>

CB(R) CB(G) CB(B) CA(RG)

REF.NO.	PART NO.	DESCRIPTION				REMARK
NL301	1-519-423-11	LAMP, NEON				
NL302	1-519-423-11	LAMP, NEON				
NL303	1-519-368-21	LAMP, NEON				
NL304	1-519-368-21	LAMP, NEON				
NL305	1-519-423-11	LAMP, NEON				

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R301	1-202-818-00	SOLID	1K	10%	1/2W	
R302	1-202-818-00	SOLID	1K	10%	1/2W	
R303	1-202-823-11	SOLID	2.7K	10%	1/2W	
R306	1-202-838-00	SOLID	100K	10%	1/2W	
R307	1-202-535-00	SOLID	27	10%	1/2W	
R308	1-202-525-00	SOLID	10	10%	1/2W	
R309	1-202-832-00	SOLID	15K	10%	1/2W	

<DISCHARGING GAP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG301	1-519-063-XX	DISCHARGING GAP	

****

*1-629-827-11 CBG BOARD
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-506-371-00	PIN, CONNECTOR 2P	
	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
	1-526-767-00	SOCKET, CRT	
	*1-564-507-11	PLUG, CONNECTOR 4P	
	1-575-097-11	LEAD ASSY, SIELD HIGH VOLTAGE	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION		REMARK
C401	1-162-114-00	CERAMIC	0.0047MF	2KV

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L403	1-408-401-00	INDUCTOR	2.2UH	

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
NL401	1-519-423-11	LAMP, NEON	
NL402	1-519-423-11	LAMP, NEON	
NL403	1-519-368-21	LAMP, NEON	
NL404	1-519-368-21	LAMP, NEON	
NL405	1-519-423-11	LAMP, NEON	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R401	1-202-818-00	SOLID	1K	10%	1/2W	
R402	1-202-818-00	SOLID	1K	10%	1/2W	
R403	1-202-823-11	SOLID	2.7K	10%	1/2W	
R406	1-202-838-00	SOLID	100K	10%	1/2W	
R407	1-202-535-00	SOLID	27	10%	1/2W	
R408	1-202-525-00	SOLID	10	10%	1/2W	
R409	1-202-832-00	SOLID	15K	10%	1/2W	

<DISCHARGING GAP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG401	1-519-063-XX	DISCHARGING GAP	

****

*1-629-828-11 CBB BOARD
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-506-371-00	PIN, CONNECTOR 2P	
	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
	1-526-767-00	SOCKET, CRT	
	*1-564-507-11	PLUG, CONNECTOR 4P	
	1-575-096-11	LEAD ASSY, SIELD HIGH VOLTAGE	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION		REMARK
C501	1-162-114-00	CERAMIC	0.0047MF	2KV

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L503	1-408-401-00	INDUCTOR	2.2UH	

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
NL501	1-519-423-11	LAMP, NEON	
NL502	1-519-423-11	LAMP, NEON	
NL503	1-519-368-21	LAMP, NEON	
NL504	1-519-368-21	LAMP, NEON	
NL505	1-519-423-11	LAMP, NEON	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R501	1-202-818-00	SOLID	1K	10%	1/2W	
R502	1-202-818-00	SOLID	1K	10%	1/2W	
R503	1-202-823-11	SOLID	2.7K	10%	1/2W	
R506	1-202-838-00	SOLID	100K	10%	1/2W	
R507	1-202-535-00	SOLID	27	10%	1/2W	
R508	1-202-525-00	SOLID	10	10%	1/2W	
R509	1-202-832-00	SOLID	15K	10%	1/2W	

<DISCFARGIONG>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SG501	1-519-063-XX	DISCHARGING GAP	

****

*A-1335-012-A CA (RG) BOARD, COMPLETE
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-526-575-00	SOCKET, PLUG 1P	
	*1-564-507-11	PLUG, CONNECTOR 4P	
	*1-564-514-11	PLUG, CONNECTOR 11P	
	*1-564-515-11	PLUG, CONNECTOR 12P	
	*1-564-516-11	PLUG, CONNECTOR 13P	
	*1-568-979-11	CONNECTOR 30P	
	*4-363-404-00	HOLDER, IC	
	4-391-519-01	SHEET (E), INSULATOR	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1	1-123-875-11	ELECT	10MF	20%	50V
C2	1-126-101-11	ELECT	100MF	20%	16V
C3	1-123-875-11	ELECT	10MF	20%	50V
C4	1-126-101-11	ELECT	100MF	20%	16V
C5	1-126-233-11	ELECT	22MF	20%	50V
C6	1-126-101-11	ELECT	100MF	20%	16V
C7	1-126-233-11	ELECT	22MF	20%	50V
C8	1-102-820-00	CERAMIC	330PF	5%	50V
C9	1-101-880-00	CERAMIC	47PF	5%	50V
C10	1-101-004-00	CERAMIC	0.01MF		50V
C11	1-101-004-00	CERAMIC	0.01MF		50V
C12	1-101-004-00	CERAMIC	0.01MF		50V
C13	1-101-004-00	CERAMIC	0.01MF		50V
C14	1-126-233-11	ELECT	22MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C15	1-102-963-00	CERAMIC	33PF	5%	50V
C16	1-126-233-11	ELECT	22MF	20%	50V
C17	1-136-165-00	FILM	0.1MF	5%	50V
C18	1-136-165-00	FILM	0.1MF	5%	50V
C19	1-136-165-00	FILM	0.1MF	5%	50V
C20	1-136-165-00	FILM	0.1MF	5%	50V
C21	1-126-233-11	ELECT	22MF	20%	50V
C22	1-126-103-11	ELECT	470MF	20%	16V
C23	1-136-171-00	FILM	0.33MF	5%	50V
C101	1-124-282-00	ELECT	22MF	20%	16V
C102	1-124-477-11	ELECT	47MF	20%	16V
C103	1-126-101-11	ELECT	100MF	20%	16V
C104	1-126-101-11	ELECT	100MF	20%	16V
C105	1-126-233-11	ELECT	22MF	20%	50V
C106	1-102-973-00	CERAMIC	100PF	5%	50V
C107	1-102-820-00	CERAMIC	330PF	5%	50V
C108	1-124-799-11	ELECT	2.2MF	20%	160V
C109	1-124-799-11	ELECT	2.2MF	20%	160V
C110	1-124-634-11	ELECT	1MF	20%	250V
C111	1-126-233-11	ELECT	22MF	20%	50V
C112	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C113	1-136-165-00	FILM	0.1MF	5%	50V
C114	1-126-174-51	ELECT	10MF	20%	350V
C115	1-102-038-00	CERAMIC	0.001MF		500V
C116	1-102-050-00	CERAMIC	0.01MF	99%	500V
C117	1-124-768-11	ELECT	4.7MF	20%	50V
C118	1-101-004-00	CERAMIC	0.01MF		50V
C119	1-136-165-00	FILM	0.1MF	5%	50V
C120	1-124-791-11	ELECT	1MF	20%	50V
C121	1-126-233-11	ELECT	22MF	20%	50V
C122	1-126-233-11	ELECT	22MF	20%	50V
C123	1-126-233-11	ELECT	22MF	20%	50V
C201	1-124-282-00	ELECT	22MF	20%	16V
C202	1-126-233-11	ELECT	22MF	20%	50V
C203	1-126-101-11	ELECT	100MF	20%	16V
C204	1-126-101-11	ELECT	100MF	20%	16V
C205	1-126-233-11	ELECT	22MF	20%	50V
C206	1-102-973-00	CERAMIC	100PF	5%	50V
C207	1-102-820-00	CERAMIC	330PF	5%	50V
C208	1-124-799-11	ELECT	2.2MF	20%	160V
C209	1-124-799-11	ELECT	2.2MF	20%	160V
C210	1-124-634-11	ELECT	1MF	20%	250V
C211	1-126-233-11	ELECT	22MF	20%	50V
C212	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C213	1-136-165-00	FILM	0.1MF	5%	50V
C214	1-126-174-51	ELECT	10MF	20%	350V
C215	1-102-038-00	CERAMIC	0.001MF		500V
C216	1-102-050-00	CERAMIC	0.01MF	99%	500V
C217	1-124-768-11	ELECT	4.7MF	20%	50V
C218	1-101-004-00	CERAMIC	0.01MF		50V
C219	1-136-165-00	FILM	0.1MF	5%	50V
C220	1-124-791-11	ELECT	1MF	20%	50V
C221	1-126-233-11	ELECT	22MF	20%	50V
C222	1-126-233-11	ELECT	22MF	20%	50V
C223	1-126-233-11	ELECT	22MF	20%	50V

<DIODE>

D1	8-719-900-95	DIODE V09G
D2	8-719-900-95	DIODE V09G
D3	8-719-109-89	DIODE RD5.6-B2
D4	8-719-911-19	DIODE 1SS119
D5	8-719-911-19	DIODE 1SS119
D6	8-719-911-19	DIODE 1SS119

REF.NO.	PART NO.	DESCRIPTION	REMARK
D7	8-719-911-19	DIODE 1SS119	
D8	8-719-911-19	DIODE 1SS119	
D9	8-719-109-93	DIODE RD6.2ES-B2	
D11	8-719-938-28	DIODE ERA22-06	
D12	8-719-911-19	DIODE 1SS119	
D13	8-719-109-85	DIODE RD5.1ES-B2	
D101	8-719-901-83	DIODE 1SS83	
D103	8-719-110-93	DIODE RD2.0ES-B2	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-901-83	DIODE 1SS83	
D106	8-719-911-19	DIODE 1SS119	
D107	8-719-911-19	DIODE 1SS119	
D108	8-719-901-83	DIODE 1SS83	
D109	8-719-911-19	DIODE 1SS119	
D110	8-719-110-93	DIODE RD2.0ES-B2	
D111	8-719-911-19	DIODE 1SS119	
D112	8-719-911-19	DIODE 1SS119	
D113	8-719-911-19	DIODE 1SS119	
D114	8-719-110-36	DIODE RD13ES-B2	
D115	8-719-911-19	DIODE 1SS119	
D201	8-719-901-83	DIODE 1SS83	
D203	8-719-110-93	DIODE RD2.0ES-B2	
D204	8-719-911-19	DIODE 1SS119	
D205	8-719-901-83	DIODE 1SS83	
D206	8-719-911-19	DIODE 1SS119	
D207	8-719-911-19	DIODE 1SS119	
D208	8-719-901-83	DIODE 1SS83	
D209	8-719-911-19	DIODE 1SS119	
D210	8-719-110-93	DIODE RD2.0ES-B2	
D211	8-719-911-19	DIODE 1SS119	
D212	8-719-911-19	DIODE 1SS119	
D213	8-719-911-19	DIODE 1SS119	
D214	8-719-110-36	DIODE RD13ES-B2	

<IC>

IC1	8-759-929-65	IC UPC7912H
IC2	8-759-982-13	IC RC78L05A
IC3	8-759-982-21	IC RC78L05A
IC3	8-759-991-41	IC LM78L05ACZ
IC4	8-759-038-14	IC MC74HC4538N
IC5	8-759-984-55	IC MB675429
IC6	8-759-916-71	IC SN74HC244N
IC7	8-759-916-12	IC TC74HC00P
IC8	8-759-990-82	IC TL082CP
IC101	8-759-821-61	IC VPH05
IC102	8-759-990-82	IC TL082CP
IC103	8-749-920-88	IC SNY-8C02
IC104	8-749-920-87	IC TY885002
IC201	8-759-821-61	IC VPH05
IC202	8-759-990-82	IC TL082CP
IC203	8-749-920-88	IC SNY-8C02
IC204	8-749-920-87	IC TY885002

<COIL>

L101	1-408-880-00	INDUCTOR	0.68UH
L201	1-408-880-00	INDUCTOR	0.68UH

<TRANSISTOR>

Q1	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q2	8-729-900-36	TRANSISTOR DTC124ES
Q3	8-729-900-36	TRANSISTOR DTC124ES

CA(RG)

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q4	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q5	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q6	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q7	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q8	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q9	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q10	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q11	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q12	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q13	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q14	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q15	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q16	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q17	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q18	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q19	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q102	8-729-140-50	TRANSISTOR 2SC3209LK				
Q103	8-729-801-88	TRANSISTOR 2SA1381				
Q104	8-729-801-88	TRANSISTOR 2SA1381				
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q106	8-729-140-50	TRANSISTOR 2SC3209LK				
Q107	8-729-801-88	TRANSISTOR 2SA1381				
Q108	8-729-900-63	TRANSISTOR DTA124ES				
Q109	8-729-900-63	TRANSISTOR DTA124ES				
Q110	8-729-900-36	TRANSISTOR DTC124ES				
Q111	8-729-105-74	TRANSISTOR 2SK523-M1				
Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q202	8-729-140-50	TRANSISTOR 2SC3209LK				
Q203	8-729-801-88	TRANSISTOR 2SA1381				
Q204	8-729-801-88	TRANSISTOR 2SA1381				
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q206	8-729-140-50	TRANSISTOR 2SC3209LK				
Q207	8-729-801-88	TRANSISTOR 2SA1381				
Q208	8-729-900-63	TRANSISTOR DTA124ES				
Q209	8-729-900-63	TRANSISTOR DTA124ES				
Q210	8-729-900-36	TRANSISTOR DTC124ES				
Q211	8-729-105-74	TRANSISTOR 2SK523-M1				
Q212	8-729-119-78	TRANSISTOR 2SC2785-HFE				
		<RESISTOR>				
R1	1-249-405-11	CARBON	100	5%	1/4W	
R2	1-215-437-00	METAL	4.7K	1%	1/6W	
R3	1-249-441-11	CARBON	100K	5%	1/4W	
R4	1-215-449-00	METAL	15K	1%	1/6W	
R5	1-249-405-11	CARBON	100	5%	1/4W	
R6	1-249-438-11	CARBON	56K	5%	1/4W	
R7	1-249-437-11	CARBON	47K	5%	1/4W	
R8	1-249-405-11	CARBON	100	5%	1/4W	
R9	1-215-449-00	METAL	15K	1%	1/6W	
R10	1-215-447-00	METAL	12K	1%	1/6W	
R11	1-249-405-11	CARBON	100	5%	1/4W	
R12	1-249-405-11	CARBON	100	5%	1/4W	
R13	1-249-441-11	CARBON	100K	5%	1/4W	
R14	1-249-423-11	CARBON	3.3K	5%	1/4W	
R15	1-249-397-11	CARBON	22	5%	1/4W	F
R16	1-249-405-11	CARBON	100	5%	1/4W	
R17	1-249-423-11	CARBON	3.3K	5%	1/4W	
R18	1-249-426-11	CARBON	5.6K	5%	1/4W	
R19	1-249-415-11	CARBON	680	5%	1/4W	
R20	1-249-397-11	CARBON	22	5%	1/4W	F
R21	1-249-413-11	CARBON	470	5%	1/4W	
R22	1-215-443-00	METAL	8.2K	1%	1/6W	
R23	1-215-447-00	METAL	12K	1%	1/6W	
R24	1-215-453-00	METAL	22K	1%	1/6W	
R25	1-215-457-00	METAL	33K	1%	1/6W	
R26	1-249-405-11	CARBON	100	5%	1/4W	
R27	1-249-405-11	CARBON	100	5%	1/4W	
R28	1-215-431-00	METAL	2.7K	1%	1/6W	
R29	1-249-429-11	CARBON	10K	5%	1/4W	
R30	1-215-469-00	METAL	100K	1%	1/6W	
R31	1-249-429-11	CARBON	10K	5%	1/4W	
R32	1-215-443-00	METAL	8.2K	1%	1/6W	
R33	1-215-443-00	METAL	8.2K	1%	1/6W	
R34	1-215-443-00	METAL	8.2K	1%	1/6W	
R35	1-247-887-00	CARBON	220K	5%	1/4W	
R36	1-247-887-00	CARBON	220K	5%	1/4W	
R37	1-247-887-00	CARBON	220K	5%	1/4W	
R38	1-249-441-11	CARBON	100K	5%	1/4W	
R39	1-215-469-00	METAL	100K	1%	1/6W	
R40	1-249-433-11	CARBON	22K	5%	1/4W	
R42	1-249-433-11	CARBON	22K	5%	1/4W	
R43	1-249-405-11	CARBON	100	5%	1/4W	
R43	1-249-429-11	CARBON	10K	5%	1/4W	
R101	1-215-401-11	METAL	150	1%	1/6W	
R102	1-215-401-11	METAL	150	1%	1/6W	
R103	1-215-473-00	METAL	150K	1%	1/6W	
R105	1-215-469-00	METAL	100K	1%	1/6W	
R106	1-215-465-00	METAL	68K	1%	1/6W	
R107	1-249-421-11	CARBON	2.2K	5%	1/4W	
R108	1-249-403-11	CARBON	68	5%	1/4W	F
R109	1-215-429-00	METAL	2.2K	1%	1/6W	
R111	1-249-421-11	CARBON	2.2K	5%	1/4W	
R112	1-215-381-00	METAL	22	1%	1/6W	
R116	1-215-473-00	METAL	150K	1%	1/6W	
R117	1-249-421-11	CARBON	2.2K	5%	1/4W	
R118	1-249-427-11	CARBON	6.8K	5%	1/4W	
R119	1-215-453-00	METAL	22K	1%	1/6W	
R120	1-215-469-00	METAL	100K	1%	1/6W	
R121	1-215-471-00	METAL	120K	1%	1/6W	
R122	1-215-441-00	METAL	6.8K	1%	1/6W	
R123	1-215-481-00	METAL	330K	1%	1/6W	
R124	1-215-433-00	METAL	3.3K	1%	1/6W	
R125	1-249-431-11	CARBON	15K	5%	1/4W	
R126	1-249-431-11	CARBON	15K	5%	1/4W	
R127	1-249-415-11	CARBON	680	5%	1/4W	
R128	1-249-405-11	CARBON	100	5%	1/4W	
R129	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R130	1-215-431-00	METAL	2.7K	1%	1/6W	
R131	1-202-549-00	SOLID	100	5%	1/2W	
R132	1-202-818-00	SOLID	1K	10%	1/2W	
R133	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R134	1-249-429-11	CARBON	10K	5%	1/4W	
R135	1-215-469-00	METAL	100K	1%	1/6W	
R136	1-202-549-00	SOLID	100	5%	1/2W	
R137	1-215-443-00	METAL	8.2K	1%	1/6W	
R138	1-215-435-00	METAL	3.9K	1%	1/6W	
R139	1-249-421-11	CARBON	2.2K	5%	1/4W	
R140	1-215-453-00	METAL	22K	1%	1/6W	
R141	1-215-421-00	METAL	1K	1%	1/6W	
R142	1-249-417-11	CARBON	1K	5%	1/4W	
R143	1-247-903-00	CARBON	1M	5%	1/4W	
R144	1-249-427-11	CARBON	6.8K	5%	1/4W	
R145	1-249-405-11	CARBON	100	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R146	1-247-895-00	CARBON	470K	5%	1/4W	
R147	1-215-457-00	METAL	33K	1%	1/6W	
R148	1-249-410-11	CARBON	270	5%	1/4W	F
R149	1-249-405-11	CARBON	100	5%	1/4W	
R201	1-215-401-11	METAL	150	1%	1/6W	
R202	1-215-401-11	METAL	150	1%	1/6W	
R203	1-215-461-00	METAL	47K	1%	1/6W	
R204	1-215-469-00	METAL	100K	1%	1/6W	
R205	1-215-469-00	METAL	100K	1%	1/6W	
R206	1-215-471-00	METAL	120K	1%	1/6W	
R207	1-249-421-11	CARBON	2.2K	5%	1/4W	
R208	1-249-403-11	CARBON	68	5%	1/4W	F
R209	1-215-429-00	METAL	2.2K	1%	1/6W	
R211	1-249-421-11	CARBON	2.2K	5%	1/4W	
R212	1-215-381-00	METAL	22	1%	1/6W	
R216	1-215-473-00	METAL	150K	1%	1/6W	
R217	1-249-421-11	CARBON	2.2K	5%	1/4W	
R218	1-249-427-11	CARBON	6.8K	5%	1/4W	
R219	1-215-453-00	METAL	22K	1%	1/6W	
R220	1-215-469-00	METAL	100K	1%	1/6W	
R221	1-215-471-00	METAL	120K	1%	1/6W	
R222	1-215-441-00	METAL	6.8K	1%	1/6W	
R223	1-215-481-00	METAL	330K	1%	1/6W	
R224	1-215-433-00	METAL	3.3K	1%	1/6W	
R225	1-249-431-11	CARBON	15K	5%	1/4W	
R226	1-249-431-11	CARBON	15K	5%	1/4W	
R227	1-249-415-11	CARBON	680	5%	1/4W	
R228	1-249-405-11	CARBON	100	5%	1/4W	
R229	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R230	1-215-431-00	METAL	2.7K	1%	1/6W	
R231	1-202-549-00	SOLID	100	5%	1/2W	
R232	1-202-818-00	SOLID	1K	10%	1/2W	
R233	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R234	1-215-469-00	METAL	100K	1%	1/6W	
R235	1-249-429-11	CARBON	10K	5%	1/4W	
R236	1-202-549-00	SOLID	100	5%	1/2W	
R237	1-215-443-00	METAL	8.2K	1%	1/6W	
R238	1-215-435-00	METAL	3.9K	1%	1/6W	
R239	1-249-421-11	CARBON	2.2K	5%	1/4W	
R240	1-215-453-00	METAL	22K	1%	1/6W	
R241	1-215-421-00	METAL	1K	1%	1/6W	
R242	1-249-417-11	CARBON	1K	5%	1/4W	
R243	1-247-903-00	CARBON	1M	5%	1/4W	
R244	1-249-427-11	CARBON	6.8K	5%	1/4W	
R245	1-249-405-11	CARBON	100	5%	1/4W	
R246	1-247-895-00	CARBON	470K	5%	1/4W	
R247	1-249-405-11	CARBON	100	5%	1/4W	

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*A-1335-013-A CA (B) BOARD, COMPLETE
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*1-526-575-00 SOCKET, PLUG 1P
*1-564-507-11 PLUG, CONNECTOR 4P
*1-564-516-11 PLUG, CONNECTOR 13P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C30	1-126-101-11	ELECT	100MF	20%	16V	
C31	1-126-101-11	ELECT	100MF	20%	16V	
C32	1-126-233-11	ELECT	22MF	20%	50V	
C33	1-126-233-11	ELECT	22MF	20%	50V	
C34	1-101-004-00	CERAMIC	0.01MF		50V	
C35	1-124-927-11	ELECT	4.7MF	20%	50V	
C36	1-126-101-11	ELECT	100MF	20%	16V	
C37	1-126-233-11	ELECT	22MF	20%	50V	
C38	1-101-004-00	CERAMIC	0.01MF		50V	
C39	1-102-978-00	CERAMIC	220PF	5%	50V	
C40	1-102-978-00	CERAMIC	220PF	5%	50V	
C41	1-102-973-00	CERAMIC	100PF	5%	50V	
C42	1-162-117-00	CERAMIC	100PF	10%	500V	
C43	1-101-004-00	CERAMIC	0.01MF		50V	
C44	1-126-233-11	ELECT	22MF	20%	50V	
C45	1-101-004-00	CERAMIC	0.01MF		50V	
C46	1-126-233-11	ELECT	22MF	20%	50V	
C47	1-126-134-11	ELECT	4.7MF	20%	350V	
C48	1-123-932-00	ELECT	4.7MF	20%	160V	
C49	1-124-798-11	ELECT	1MF	20%	160V	
C50	1-124-798-11	ELECT	1MF	20%	160V	
C51	1-102-050-00	CERAMIC	0.01MF	99%	500V	
C52	1-102-050-00	CERAMIC	0.01MF	99%	500V	
C53	1-124-791-11	ELECT	1MF	20%	50V	
C301	1-124-282-00	ELECT	22MF	20%	16V	
C302	1-124-910-11	ELECT	47MF	20%	50V	
C303	1-126-101-11	ELECT	100MF	20%	16V	
C304	1-126-101-11	ELECT	100MF	20%	16V	
C305	1-126-233-11	ELECT	22MF	20%	50V	
C306	1-102-973-00	CERAMIC	100PF	5%	50V	
C307	1-102-820-00	CERAMIC	330PF	5%	50V	
C308	1-124-799-11	ELECT	2.2MF	20%	160V	
C309	1-124-799-11	ELECT	2.2MF	20%	160V	
C310	1-124-634-11	ELECT	1MF	20%	250V	
C311	1-126-233-11	ELECT	22MF	20%	50V	
C312	1-102-127-00	CERAMIC	0.0068MF	10%	50V	
C313	1-136-165-00	FILM	0.1MF	5%	50V	
C314	1-126-174-51	ELECT	10MF	20%	350V	
C315	1-102-038-00	CERAMIC	0.001MF		500V	
C316	1-102-050-00	CERAMIC	0.01MF	99%	500V	
C317	1-124-768-11	ELECT	4.7MF	20%	50V	
C318	1-101-004-00	CERAMIC	0.01MF		50V	
C319	1-136-165-00	FILM	0.1MF	5%	50V	
C320	1-124-791-11	ELECT	1MF	20%	50V	
C321	1-126-233-11	ELECT	22MF	20%	50V	
C322	1-126-233-11	ELECT	22MF	20%	50V	
C323	1-126-233-11	ELECT	22MF	20%	50V	
C324	1-102-973-00	CERAMIC	100PF	5%	50V	
C350	1-126-101-11	ELECT	100MF	20%	16V	
C351	1-126-101-11	ELECT	100MF	20%	16V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D30	8-719-911-19	DIODE 1SS119
D31	8-719-901-83	DIODE 1SS83
D32	8-719-901-83	DIODE 1SS83
D33	8-719-911-19	DIODE 1SS119
D34	8-719-911-19	DIODE 1SS119
D35	8-719-900-95	DIODE V09G
D36	8-719-900-95	DIODE V09G
D37	8-719-971-20	DIODE ERC38-06
D38	8-719-110-31	DIODE RD12ES-B2
D39	8-719-901-83	DIODE 1SS83
D301	8-719-901-83	DIODE 1SS83
D303	8-719-110-93	DIODE RD2.0ES-B2
D304	8-719-911-19	DIODE 1SS119
D305	8-719-901-83	DIODE 1SS83
D306	8-719-911-19	DIODE 1SS119
D307	8-719-911-19	DIODE 1SS119
D308	8-719-901-83	DIODE 1SS83

CA(B)

REF.NO.	PART NO.	DESCRIPTION				REMARK
D309	8-719-911-19	DIODE 1SS119				
D310	8-719-110-93	DIODE RD2.0ES-B2				
D311	8-719-911-19	DIODE 1SS119				
D312	8-719-911-19	DIODE 1SS119				
D313	8-719-911-19	DIODE 1SS119				
D314	8-719-110-36	DIODE RD13ES-B2				
D315	8-719-109-66	DIODE RD3.3ES-B2				
D316	8-719-911-19	DIODE 1SS119				

<IC>

REF.NO.	PART NO.	DESCRIPTION				REMARK
IC301	8-759-821-61	IC VPH05				
IC302	8-759-990-82	IC TL082CP				
IC303	8-749-920-88	IC SNY-8C02				
IC304	8-749-920-87	IC TY885002				
IC305	8-749-921-91	IC TY885003A				

<COIL>

REF.NO.	PART NO.	DESCRIPTION				REMARK
L301	1-408-880-00	INDUCTOR	0.68UH			

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q30	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q31	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q32	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q33	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q34	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q35	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q36	8-729-820-82	TRANSISTOR 2SA1208-S				
Q37	8-729-820-82	TRANSISTOR 2SA1208-S				
Q38	8-729-255-12	TRANSISTOR 2SC2910-S				
Q39	8-729-255-12	TRANSISTOR 2SC2910-S				
Q40	8-729-820-82	TRANSISTOR 2SA1208-S				
Q41	8-729-903-68	TRANSISTOR 2SD982				
Q42	8-729-801-88	TRANSISTOR 2SA1381				
Q43	8-729-900-36	TRANSISTOR DTC124ES				
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q302	8-729-140-50	TRANSISTOR 2SC3209LK				
Q303	8-729-801-88	TRANSISTOR 2SA1381				
Q304	8-729-801-88	TRANSISTOR 2SA1381				
Q305	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q306	8-729-140-50	TRANSISTOR 2SC3209LK				
Q307	8-729-801-88	TRANSISTOR 2SA1381				
Q308	8-729-900-63	TRANSISTOR DTA124ES				
Q309	8-729-900-63	TRANSISTOR DTA124ES				
Q310	8-729-900-36	TRANSISTOR DTC124ES				
Q311	8-729-105-74	TRANSISTOR 2SK523-M1				
Q312	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q313	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q314	8-729-900-36	TRANSISTOR DTC124ES				

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R50	1-249-421-11	CARBON	2.2K	5%	1/4W	
R51	1-249-427-11	CARBON	6.8K	5%	1/4W	
R52	1-249-393-11	CARBON	10	5%	1/4W	
R53	1-249-427-11	CARBON	6.8K	5%	1/4W	
R54	1-215-437-00	METAL	4.7K	1%	1/6W	
R55	1-215-439-00	METAL	5.6K	1%	1/6W	
R56	1-215-467-00	METAL	82K	1%	1/6W	
R57	1-249-405-11	CARBON	100	5%	1/4W	
R58	1-249-441-11	CARBON	100K	5%	1/4W	
R59	1-249-429-11	CARBON	10K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R60	1-249-425-11	CARBON	4.7K	5%	1/4W	
R61	1-249-429-11	CARBON	10K	5%	1/4W	
R62	1-249-429-11	CARBON	10K	5%	1/4W	
R63	1-249-421-11	CARBON	2.2K	5%	1/4W	
R64	1-249-425-11	CARBON	4.7K	5%	1/4W	
R65	1-249-425-11	CARBON	4.7K	5%	1/4W	
R66	1-249-417-11	CARBON	1K	5%	1/4W	F
R67	1-249-397-11	CARBON	22	5%	1/4W	
R68	1-249-397-11	CARBON	22	5%	1/4W	F
R69	1-249-397-11	CARBON	22	5%	1/4W	F
R70	1-249-399-11	CARBON	33	5%	1/4W	
R71	1-249-399-11	CARBON	33	5%	1/4W	
R72	1-249-397-11	CARBON	22	5%	1/4W	F
R73	1-249-403-11	CARBON	68	5%	1/4W	
R74	1-249-429-11	CARBON	10K	5%	1/4W	F
R75	1-249-429-11	CARBON	10K	5%	1/4W	F
R76	1-202-719-00	SOLID	1M	10%	1/2W	
R77	1-247-903-00	CARBON	1M	5%	1/4W	
R78	1-249-441-11	CARBON	100K	5%	1/4W	
R301	1-215-401-11	METAL	150	1%	1/6W	
R302	1-215-401-11	METAL	150	1%	1/6W	
R303	1-215-461-00	METAL	47K	1%	1/6W	
R304	1-215-469-00	METAL	100K	1%	1/6W	
R305	1-215-469-00	METAL	100K	1%	1/6W	
R306	1-215-473-00	METAL	150K	1%	1/6W	
R307	1-249-421-11	CARBON	2.2K	5%	1/4W	
R308	1-249-403-11	CARBON	68	5%	1/4W	
R309	1-215-429-00	METAL	2.2K	1%	1/6W	
R311	1-249-421-11	CARBON	2.2K	5%	1/4W	
R312	1-215-381-00	METAL	22	1%	1/6W	
R316	1-215-473-00	METAL	150K	1%	1/6W	
R317	1-249-421-11	CARBON	2.2K	5%	1/4W	
R318	1-249-427-11	CARBON	6.8K	5%	1/4W	
R319	1-215-453-00	METAL	22K	1%	1/6W	
R320	1-215-469-00	METAL	100K	1%	1/6W	
R321	1-215-471-00	METAL	120K	1%	1/6W	
R322	1-215-441-00	METAL	6.8K	1%	1/6W	
R323	1-215-481-00	METAL	330K	1%	1/6W	
R324	1-215-433-00	METAL	3.3K	1%	1/6W	
R325	1-249-431-11	CARBON	15K	5%	1/4W	
R326	1-249-431-11	CARBON	15K	5%	1/4W	
R327	1-249-415-11	CARBON	680	5%	1/4W	
R328	1-249-405-11	CARBON	100	5%	1/4W	
R329	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R330	1-215-431-00	METAL	2.7K	1%	1/6W	
R331	1-202-549-00	SOLID	100	5%	1/2W	
R332	1-202-818-00	SOLID	1K	10%	1/2W	
R333	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R334	1-215-469-00	METAL	100K	1%	1/6W	
R335	1-249-429-11	CARBON	10K	5%	1/4W	
R336	1-202-549-00	SOLID	100	5%	1/2W	
R337	1-215-443-00	METAL	8.2K	1%	1/6W	
R338	1-215-435-00	METAL	3.9K	1%	1/6W	
R339	1-249-421-11	CARBON	2.2K	5%	1/4W	
R340	1-215-453-00	METAL	22K	1%	1/6W	
R341	1-215-421-00	METAL	1K	1%	1/6W	
R342	1-249-417-11	CARBON	1K	5%	1/4W	
R343	1-247-903-00	CARBON	1M	5%	1/4W	
R344	1-249-427-11	CARBON	6.8K	5%	1/4W	
R345	1-249-405-11	CARBON	100	5%	1/4W	
R346	1-247-895-00	CARBON	470K	5%	1/4W	
R347	1-249-405-11	CARBON	100	5%	1/4W	
R348	1-247-903-00	CARBON	1M	5%	1/4W	
R349	1-249-423-11	CARBON	3.3K	5%	1/4W	

CA(B) **DM** **DA**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R351	1-215-447-00	METAL	12K	1%	1/6W	
R352	1-249-421-11	CARBON	2.2K	5%	1/4W	
R353	1-249-403-11	CARBON	68	5%	1/4W	F
R356	1-215-461-00	METAL	47K	1%	1/6W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
	*1-629-830-11	DM BOARD ********				
	*1-506-348-XX	PIN, CONNECTOR 4P				
	1-506-348-31	PIN, CONNECTOR 6P				
	*1-506-348-XX	PIN, CONNECTOR 3P				
	*1-506-348-XX	PIN, CONNECOTR 5P				
	*1-508-742-00	PIN, CONNECTOR 3P				
	*1-564-506-11	PLUG, CONNECTOR 3P				
	*1-564-507-11	PLUG, CONNECTOR 4P				
	*1-564-509-11	PLUG, CONNECTOR 6P				
	*1-564-509-11	PLUG, CONNECTOR 6P				
	*1-564-514-11	PLUG, CONNECTOR 11P				
	*1-564-515-11	PLUG, CONNECTOR 12P				
	*1-564-516-11	PLUG, CONNECTOR 13P				
	*1-564-516-11	PLUG, CONNECTOR 13P				
	*1-568-982-11	CONNECTOR, FEMALE 96P				
	*1-568-985-11	CONNECTOR, FEMALE 64P				
		<CAPACITOR>				
C1	1-124-556-11	ELECT	2200MF	20%	16V	
C2	1-124-556-11	ELECT	2200MF	20%	16V	
		<RESISTOR>				
R1	1-215-908-00	METAL OXIDE	33	5%	3W	F
R2	1-215-908-00	METAL OXIDE	33	5%	3W	F
R3	1-216-483-11	METAL OXIDE	2.7K	5%	3W	F
R4	1-216-483-11	METAL OXIDE	2.7K	5%	3W	F
R5	1-216-475-11	METAL OXIDE	120	5%	3W	F

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REF.NO.	PART NO.	DESCRIPTION				REMARK
	*A-1345-873-A	DA BOARD, COMPLETE ******************				
	*1-568-984-11	CONNECTOR, MALE 96P				
		<CAPACITOR>				
C1	1-123-875-11	ELECT	10MF	20%	50V	
C2	1-126-101-11	ELECT	100MF	20%	16V	
C3	1-123-875-11	ELECT	10MF	20%	50V	
C4	1-126-101-11	ELECT	100MF	20%	16V	
C5	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C6	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C7	1-124-791-11	ELECT	1MF	20%	50V	
C8	1-136-153-00	FILM	0.01MF	5%	50V	
C9	1-124-791-11	ELECT	1MF	20%	50V	
C10	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C11	1-123-875-11	ELECT	10MF	20%	50V	
C12	1-124-791-11	ELECT	1MF	20%	50V	
C13	1-136-153-00	FILM	0.01MF	5%	50V	
C14	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C15	1-123-875-11	ELECT	10MF	20%	50V	
C16	1-124-791-11	ELECT	1MF	20%	50V	
C17	1-136-153-00	FILM	0.01MF	5%	50V	
C18	1-124-925-11	ELECT	2.2MF	20%	50V	
C19	1-124-791-11	ELECT	1MF	20%	50V	
C20	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C21	1-123-875-11	ELECT	10MF	20%	50V	
C22	1-124-791-11	ELECT	1MF	20%	50V	
C23	1-136-153-00	FILM	0.01MF	5%	50V	
C24	1-124-925-11	ELECT	2.2MF	20%	50V	
C25	1-124-791-11	ELECT	1MF	20%	50V	
C26	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C29	1-123-875-11	ELECT	10MF	20%	50V	
C30	1-124-791-11	ELECT	1MF	20%	50V	
C31	1-123-875-11	ELECT	10MF	20%	50V	
C32	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C33	1-123-875-11	ELECT	10MF	20%	50V	
C34	1-124-791-11	ELECT	1MF	20%	50V	
C35	1-124-477-11	ELECT	47MF	20%	16V	
C36	1-124-791-11	ELECT	1MF	20%	50V	
C37	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C38	1-123-875-11	ELECT	10MF	20%	50V	
C39	1-124-791-11	ELECT	1MF	20%	50V	
C40	1-124-791-11	ELECT	1MF	20%	50V	
C41	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C42	1-124-927-11	ELECT	4.7MF	20%	50V	
C43	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C44	1-130-471-00	MYLAR	0.001MF	5%	50V	
C45	1-123-875-11	ELECT	10MF	20%	50V	
C46	1-124-925-11	ELECT	2.2MF	20%	50V	
C47	1-123-875-11	ELECT	10MF	20%	50V	
C48	1-124-925-11	ELECT	2.2MF	20%	50V	
C49	1-136-153-00	FILM	0.01MF	5%	50V	
C50	1-123-875-11	ELECT	10MF	20%	50V	
C53	1-123-875-11	ELECT	10MF	20%	50V	
C54	1-124-927-11	ELECT	4.7MF	20%	50V	
C55	1-130-471-00	MYLAR	0.001MF	5%	50V	
C56	1-130-471-00	FILM	0.001MF	5%	50V	
C57	1-136-165-00	FILM	0.1MF	5%	50V	
C58	1-124-119-00	ELECT	330MF	20%	16V	
C59	1-124-120-11	ELECT	220MF	20%	16V	
C60	1-124-925-11	ELECT	2.2MF	20%	50V	
C61	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C62	1-124-925-11	ELECT	2.2MF	20%	50V	
C63	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C71	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C73	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C74	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C75	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C76	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C79	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C81	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C82	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C83	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C84	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C85	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C86	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C87	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C88	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C89	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C90	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C91	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C92	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C93	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C94	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C95	1-164-232-11	CERAMIC CHIP	0.01MF		50V	
C96	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C97	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	

DA

REF.NO.	PART NO.	DESCRIPTION			REMARK
C98	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C99	1-136-165-00	FILM	0.1MF	5%	50V
C100	1-136-153-00	FILM	0.01MF	5%	50V
C101	1-136-153-00	FILM	0.01MF	5%	50V
C102	1-124-963-11	ELECT	33MF	20%	16V
C103	1-124-556-11	ELECT	2200MF	20%	16V
C104	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C156	1-123-875-11	ELECT	10MF	20%	50V
C158	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C201	1-123-875-11	ELECT	10MF	20%	50V
C202	1-136-153-00	FILM	0.01MF	5%	50V
C203	1-136-165-00	FILM	0.1MF	5%	50V
C204	1-124-927-11	ELECT	4.7MF	20%	50V
C205	1-124-791-11	ELECT	1MF	20%	50V
C206	1-124-791-11	ELECT	1MF	20%	50V
C207	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C208	1-124-791-11	ELECT	1MF	20%	50V
C209	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C210	1-123-875-11	ELECT	10MF	20%	50V
C211	1-124-477-11	ELECT	47MF	20%	16V
C212	1-126-233-11	ELECT	22MF	20%	50V
C213	1-124-925-11	ELECT	2.2MF	20%	50V
C214	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C215	1-124-925-11	ELECT	2.2MF	20%	50V
C216	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C217	1-123-875-11	ELECT	10MF	20%	50V
C218	1-124-927-11	ELECT	4.7MF	20%	50V
C219	1-124-925-11	ELECT	2.2MF	20%	50V
C220	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C221	1-124-925-11	ELECT	2.2MF	20%	50V
C222	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C223	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C224	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C231	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C232	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C233	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C234	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C235	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C236	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C237	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C238	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C239	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C240	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C241	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C242	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C243	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C244	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C245	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C248	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C249	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C252	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C253	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C254	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C255	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C256	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C257	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C258	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C259	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C260	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C261	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C262	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C263	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C264	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C265	1-164-232-11	CERAMIC CHIP	0.01MF		50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C266	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C300	1-124-925-11	ELECT	2.2MF	20%	50V
C301	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C302	1-124-925-11	ELECT	2.2MF	20%	50V
C303	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C401	1-126-101-11	ELECT	100MF	20%	16V
C402	1-126-101-11	ELECT	100MF	20%	16V
C403	1-123-875-11	ELECT	10MF	20%	50V
C405	1-123-875-11	ELECT	10MF	20%	50V

<DIODE>

D1	8-719-900-95	DIODE	V09G
D2	8-719-900-95	DIODE	V09G
D3	8-719-400-18	DIODE	MA152WK
D4	8-719-400-18	DIODE	MA152WK
D5	8-719-938-28	DIODE	ERA22-06
D6	8-719-106-71	DIODE	RD12M-B2
D8	8-719-400-18	DIODE	MA152WK
D9	8-719-400-18	DIODE	MA152WK
D10	8-719-400-18	DIODE	MA152WK
D11	8-719-400-18	DIODE	MA152WK
D12	8-719-400-18	DIODE	MA152WK
D13	8-719-104-34	DIODE	1S2836
D14	8-719-911-19	DIODE	1SS119
D201	8-719-800-76	DIODE	1SS226
D202	8-719-400-18	DIODE	MA152WK
D203	8-719-400-18	DIODE	MA152WK
D204	8-719-400-18	DIODE	MA152WK
D205	8-719-800-76	DIODE	1SS226
D206	8-719-400-18	DIODE	MA152WK
D207	8-719-400-18	DIODE	MA152WK
D208	8-719-400-18	DIODE	MA152WK
D209	8-719-400-18	DIODE	MA152WK

<IC>

IC1	8-759-604-39	IC	M5F78M12
IC2	8-759-982-48	IC	RC79L12A
IC3	8-759-321-62	IC	HD14538BFP
IC4	8-759-100-96	IC	RC4558PG2
IC5	8-759-321-62	IC	HD14538BFP
IC6	8-759-100-96	IC	RC4558PG2
IC8	8-759-100-93	IC	UPC393G2
IC9	8-759-321-62	IC	HD14538BFP
IC10	8-759-114-06	IC	UPC814G2
IC11	8-759-321-62	IC	HD14538BFP
IC12	8-759-114-06	IC	UPC814G2
IC13	8-759-321-62	IC	HD14538BFP
IC14	8-749-920-80	IC	SBX4011-01
IC15	8-759-100-96	IC	RC4558PG2
IC16	8-759-114-06	IC	UPC814G2
IC17	8-759-009-07	IC	MC14053BF
IC18	8-759-321-62	IC	HD14538BFP
IC19	8-759-100-93	IC	UPC393G2
IC201	8-752-033-65	IC	CXA1158P
IC202	8-759-925-74	IC	SN74HC04NS
IC203	8-759-114-06	IC	UPC814G2
IC204	8-759-114-06	IC	UPC814G2
IC205	8-759-114-06	IC	UPC814G2
IC206	8-759-114-06	IC	UPC814G2
IC207	8-759-114-06	IC	UPC814G2
IC208	8-759-100-96	IC	RC4558PG2

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC209	8-759-100-96	IC RC4558PG2	
IC211	8-759-100-96	IC RC4558PG2	
IC213	8-759-114-06	IC UPC814G2	
IC214	8-759-114-06	IC UPC814G2	
IC215	8-759-114-06	IC UPC814G2	
IC217	8-759-114-06	IC UPC814G2	
IC218	8-759-009-07	IC MC14053B	
IC219	8-759-114-06	IC UPC814G2	
IC220	8-759-114-06	IC UPC814G2	
IC221	8-759-926-11	IC SN74HC138NS	
IC401	8-759-100-93	IC UPC393G2	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1	1-459-155-00	COIL (WITH CORE) 45UH	
L2	1-459-155-00	COIL (WITH CORE) 45UH	
L3	1-459-155-00	COIL (WITH CORE) 45UH	
L401	1-459-155-00	COIL (WITH CORE) 45UH	
L402	1-459-155-00	COIL (WITH CORE) 45UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1	8-729-230-49	TRANSISTOR 2SC2712	
Q2	8-729-216-22	TRANSISTOR 2SA1162	
Q3	8-729-230-49	TRANSISTOR 2SC2712	
Q4	8-729-216-22	TRANSISTOR 2SA1162	
Q5	8-729-216-22	TRANSISTOR 2SA1162	
Q6	8-729-216-22	TRANSISTOR 2SA1162	
Q7	8-729-216-22	TRANSISTOR 2SA1162	
Q8	8-729-216-22	TRANSISTOR 2SA1162	
Q9	8-729-230-49	TRANSISTOR 2SC2712	
Q10	8-729-230-49	TRANSISTOR 2SC2712	
Q11	8-729-105-72	TRANSISTOR 2SK523-L1	
Q12	8-729-216-22	TRANSISTOR 2SA1162	
Q13	8-729-216-22	TRANSISTOR 2SA1162	
Q14	8-729-230-49	TRANSISTOR 2SC2712	
Q15	8-729-230-49	TRANSISTOR 2SC2712	
Q16	8-729-230-49	TRANSISTOR 2SC2712	
Q17	8-729-903-82	TRANSISTOR FMW2	
Q18	8-729-920-60	TRANSISTOR IMX2	
Q19	8-729-904-04	TRANSISTOR FMS2	
Q20	8-729-903-10	TRANSISTOR FMW1	
Q21	8-729-903-10	TRANSISTOR FMW1	
Q22	8-729-920-60	TRANSISTOR IMX2	
Q23	8-729-230-49	TRANSISTOR 2SC2712	
Q24	8-729-216-22	TRANSISTOR 2SA1162	
Q25	8-729-901-01	TRANSISTOR DTC144EK	
Q26	8-729-901-01	TRANSISTOR DTC144EK	
Q27	8-729-901-01	TRANSISTOR DTC144EK	
Q29	8-729-901-01	TRANSISTOR DTC144EK	
Q30	8-729-901-01	TRANSISTOR DTC144EK	
Q31	8-729-903-10	TRANSISTOR FMW1	
Q32	8-729-230-49	TRANSISTOR 2SC2712	
Q33	8-729-230-49	TRANSISTOR 2SC2712	
Q34	8-729-216-22	TRANSISTOR 2SA1162	
Q201	8-729-230-49	TRANSISTOR 2SC2712	
Q202	8-729-230-49	TRANSISTOR 2SC2712	
Q203	8-729-230-49	TRANSISTOR 2SC2712	
Q204	8-729-230-49	TRANSISTOR 2SC2712	
Q205	8-729-903-82	TRANSISTOR FMW2	
Q206	8-729-920-60	TRANSISTOR IMX2	
Q207	8-729-904-04	TRANSISTOR FMS2	
Q208	8-729-903-10	TRANSISTOR FMW1	
Q209	8-729-903-10	TRANSISTOR FMW1	
Q210	8-729-920-60	TRANSISTOR IMX2	
Q211	8-729-230-49	TRANSISTOR 2SC2712	
Q212	8-729-216-22	TRANSISTOR 2SA1162	
Q213	8-729-903-82	TRANSISTOR FMW2	
Q214	8-729-920-60	TRANSISTOR IMX2	
Q215	8-729-904-04	TRANSISTOR FMS2	
Q216	8-729-903-10	TRANSISTOR FMW1	
Q217	8-729-903-10	TRANSISTOR FMW1	
Q218	8-729-920-60	TRANSISTOR IMX2	
Q219	8-729-230-49	TRANSISTOR 2SC2712	
Q220	8-729-216-22	TRANSISTOR 2SA1162	
Q221	8-729-230-49	TRANSISTOR 2SC2712	
Q222	8-729-902-96	TRANSISTOR FMS1	
Q223	8-729-230-49	TRANSISTOR 2SC2712	
Q224	8-729-902-96	TRANSISTOR FMS1	
Q225	8-729-230-49	TRANSISTOR 2SC2712	
Q226	8-729-903-10	TRANSISTOR FMW1	
Q227	8-729-216-22	TRANSISTOR 2SA1162	
Q228	8-729-903-10	TRANSISTOR FMW1	
Q229	8-729-216-22	TRANSISTOR 2SA1162	
Q230	8-729-216-22	TRANSISTOR 2SA1162	
Q231	8-729-216-22	TRANSISTOR 2SA1162	
Q232	8-729-903-82	TRANSISTOR FMW2	
Q233	8-729-920-60	TRANSISTOR IMX2	
Q234	8-729-904-04	TRANSISTOR FMS2	
Q235	8-729-903-10	TRANSISTOR FMW1	
Q236	8-729-903-10	TRANSISTOR FMW1	
Q237	8-729-920-60	TRANSISTOR IMX2	
Q238	8-729-230-49	TRANSISTOR 2SC2712	
Q239	8-729-216-22	TRANSISTOR 2SA1162	
Q240	8-729-903-10	TRANSISTOR FMW1	
Q241	8-729-216-22	TRANSISTOR 2SA1162	
Q401	8-729-205-97	TRANSISTOR 2SC3668-Y	
Q402	8-729-205-95	TRANSISTOR 2SA1428Y	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R3	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R4	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R5	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R6	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R7	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R8	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R9	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R10	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R11	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R12	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R13	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R14	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R15	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R16	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R17	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R18	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R19	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R20	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R21	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R22	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R23	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R24	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R25	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R26	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R29	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R30	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R31	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R32	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R33	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R34	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R35	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R36	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R39	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R41	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R42	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R43	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R46	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R47	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R49	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R50	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R51	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R52	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R53	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R54	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R55	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R56	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R57	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R58	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R59	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R60	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R61	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R62	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R63	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R64	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R65	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R66	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R67	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R68	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R69	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R70	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R71	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R72	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R73	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R74	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R75	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R76	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R77	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R78	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R79	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R80	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R81	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R82	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R83	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R84	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R85	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R86	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R87	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R88	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R89	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R90	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R91	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R92	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R93	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R94	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R95	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R96	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R97	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R99	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R100	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R101	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R103	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R104	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R105	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R106	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R107	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R108	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R109	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R110	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R111	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R112	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R113	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R114	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R115	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R116	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R117	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R118	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R119	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R120	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R121	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R122	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R123	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R124	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R125	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R126	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R127	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R128	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R129	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R130	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R131	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R132	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R133	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R134	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R135	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R136	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R137	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R138	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R139	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R140	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R141	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R142	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R143	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R144	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R145	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R146	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R147	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R148	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R150	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R151	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R152	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R153	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R154	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R155	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R156	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R157	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R158	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R159	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R160	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R161	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R163	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R164	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	

DA

REF.NO.	PART NO.	DESCRIPTION				REMARK
R165	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R168	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R169	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R170	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R171	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R172	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R173	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R174	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R175	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R176	1-247-881-00	CARBON	120K	5%	1/4W	
R177	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R178	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R179	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R180	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R181	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R182	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R183	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R184	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R185	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R186	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R187	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R188	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R189	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R190	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R191	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R192	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R195	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R196	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R199	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R201	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R203	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R204	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R205	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R206	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R207	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R208	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R209	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R210	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R211	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R212	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R213	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R214	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R215	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R216	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R217	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R218	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R219	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R220	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R221	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R222	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R223	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R224	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R225	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R226	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R227	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R228	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R229	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R230	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R231	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R232	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R233	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R234	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R235	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R236	1-216-025-00	METAL GLAZE	100	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R237	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R238	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R239	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R240	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R241	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R242	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R243	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R244	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R245	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R246	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R247	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R248	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R249	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R250	1-216-641-11	METAL CHIP	390	0.50%	1/10W	
R251	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R252	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R253	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R254	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R255	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R256	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R257	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R258	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R259	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R260	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R261	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R262	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R263	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R265	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R266	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R267	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R268	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R269	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R270	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R271	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R272	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R273	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R274	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R275	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R276	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R277	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R278	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R279	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R280	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R281	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R282	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R283	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R284	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R286	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R287	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R288	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R289	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R290	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R291	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R295	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R296	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R297	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R298	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R299	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R300	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R301	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R302	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R303	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R304	1-216-025-00	METAL GLAZE	100	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R305	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R306	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R307	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R308	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R309	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R310	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R311	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R312	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R313	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R314	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R315	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R316	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R317	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R318	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R319	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R320	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R321	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R322	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R323	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R324	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R325	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R326	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R327	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R328	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R329	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R330	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R331	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R332	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R333	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R334	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R335	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R336	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R337	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R338	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R339	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R340	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R341	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R342	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R343	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R344	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R345	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R346	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R347	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R348	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R349	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R350	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R351	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R352	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R353	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R354	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R356	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R357	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R358	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R360	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R361	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R362	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R363	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R364	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R365	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R366	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R367	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R368	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R369	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R370	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R371	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R372	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R373	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R374	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R375	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R376	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R377	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R378	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R379	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R380	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R381	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R382	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R383	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R384	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R385	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R386	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R401	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R402	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R403	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R404	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R405	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R406	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R407	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R408	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R409	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R410	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R411	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R412	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R413	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R414	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R415	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R416	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R417	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R418	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R419	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R420	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R421	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

<VARIABLE RESISTOR>

RV1	1-237-502-21	RES, ADJ, CERMET 5K
RV2	1-237-503-21	RES, ADJ, CERMET 10K
RV3	1-237-502-21	RES, ADJ, CERMET 5K
RV4	1-237-503-21	RES, ADJ, CERMET 10K

<SWITCH>

S1	1-570-204-21	SWITCH, KEY BOARD
S2	1-570-204-21	SWITCH, KEY BOARD

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*A-1345-901-A DB BOARD, COMPLETE
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*1-568-984-11 CONNECTOR, MALE 96P

<CAPACITOR>

C501	1-123-356-00	ELECT	10MF	20%	16V
C502	1-123-356-00	ELECT	10MF	20%	16V
C503	1-123-356-00	ELECT	10MF	20%	16V
C504	1-123-356-00	ELECT	10MF	20%	16V
C505	1-123-356-00	ELECT	10MF	20%	16V

REF.NO.	PART NO.	DESCRIPTION	REMARK
C506	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C507	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C508	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C509	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C510	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C511	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C512	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C513	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C514	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C515	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C516	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C517	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C518	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C519	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C520	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C521	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C522	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C523	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C524	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C525	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C526	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C527	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C528	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C529	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C530	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C531	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C532	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C533	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C534	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C535	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C536	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C537	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C538	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C539	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C540	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C541	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C542	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C543	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C544	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C545	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C546	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C547	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C548	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C549	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C550	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C551	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C552	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C553	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C554	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C555	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C556	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C557	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C558	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C559	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C560	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C561	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C562	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C563	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C564	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C565	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C566	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C567	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C568	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C569	1-164-232-11	CERAMIC CHIP 0.01MF	50V

REF.NO.	PART NO.	DESCRIPTION		REMARK
C570	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C571	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C572	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C573	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C574	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C575	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C577	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C578	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C580	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C581	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C582	1-164-161-11	CERAMIC CHIP 0.0022MF	5%	50V
C583	1-164-161-11	CERAMIC CHIP 0.0022MF	5%	50V
C584	1-164-161-11	CERAMIC CHIP 0.0022MF	5%	50V
		<DIODE>		
D501	8-719-900-95	DIODE V09G		
D502	8-719-900-95	DIODE V09G		
D503	8-719-800-76	DIODE 1SS226		
D504	8-719-800-76	DIODE 1SS226		
D505	8-719-800-76	DIODE 1SS226		
D506	8-719-800-76	DIODE 1SS226		
D507	8-719-800-76	DIODE 1SS226		
D508	8-719-800-76	DIODE 1SS226		
		<IC>		
IC501	8-759-926-48	SN74HC244NS		
IC502	8-759-926-48	SN74HC244NS		
IC503	8-759-926-48	SN74HC244NS		
IC504	8-759-926-48	SN74HC244NS		
IC505	8-759-926-11	IC SN74HC138NS		
IC506	8-759-926-11	IC SN74HC138NS		
IC507	8-759-926-11	IC SN74HC138NS		
IC508	8-759-926-11	IC SN74HC138NS		
IC509	8-759-926-11	IC SN74HC138NS		
IC510	8-759-926-11	IC SN74HC138NS		
IC511	8-759-995-64	IC MB86023		
IC512	8-759-995-64	IC MB86023		
IC513	8-759-995-64	IC MB86023		
IC514	8-759-995-64	IC MB86023		
IC515	8-759-995-64	IC MB86023		
IC516	8-759-995-64	IC MB86023		
IC517	8-759-995-64	IC MB86023		
IC518	8-759-995-64	IC MB86023		
IC519	8-759-995-64	IC MB86023		
IC520	8-759-995-64	IC MB86023		
IC521	8-759-995-64	IC MB86023		
IC522	8-759-995-64	IC MB86023		
IC523	8-759-995-64	IC MB86023		
IC524	8-759-995-64	IC MB86023		
IC525	8-759-995-64	IC MB86023		
IC526	8-759-995-64	IC MB86023		
IC527	8-759-995-64	IC MB86023		
IC528	8-759-995-64	IC MB86023		
IC529	8-759-995-64	IC MB86023		
IC530	8-759-995-64	IC MB86023		
IC531	8-759-995-64	IC MB86023		
IC532	8-759-995-64	IC MB86023		
IC533	8-759-995-64	IC MB86023		
IC534	8-759-995-64	IC MB86023		
IC535	8-759-995-64	IC MB86023		
IC536	8-759-995-64	IC MB86023		

DB

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC537	8-759-995-64	IC MB86023	
IC538	8-759-995-64	IC MB86023	
IC539	8-759-995-64	IC MB86023	
IC540	8-759-995-64	IC MB86023	
IC541	8-759-995-64	IC MB86023	
IC542	8-759-995-64	IC MB86023	
IC543	8-759-995-64	IC MB86023	
IC544	8-759-995-64	IC MB86023	
IC545	8-759-995-64	IC MB86023	
IC546	8-759-995-64	IC MB86023	
IC547	8-759-100-96	IC RC4558PG2	
IC548	8-759-100-96	IC RC4558PG2	
IC549	8-759-114-06	IC UPC814G2	
IC550	8-759-114-06	IC UPC814G2	
IC551	8-759-114-06	IC UPC814G2	
IC552	8-759-147-47	IC UPC-1093T	
		<COIL>	
L501	1-459-155-00	COIL (WITH CORE) 45UH	
L502	1-459-155-00	COIL (WITH CORE) 45UH	
		<RESISTOR>	
R501	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R502	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R503	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R504	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R505	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R506	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R507	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R508	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R509	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R510	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R511	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R512	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R513	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R514	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R515	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R516	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R517	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R518	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R519	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R520	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R521	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R522	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R523	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R524	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R525	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R526	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R527	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R528	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R529	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R530	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R531	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R532	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R533	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R534	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R535	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R536	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R537	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
R538	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
R539	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
R540	1-216-627-11	METAL CHIP 100 0.50% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R541	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R542	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R543	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R544	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R545	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R546	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R547	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R548	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R549	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R550	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R551	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R552	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R553	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R554	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R555	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R556	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R557	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R558	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R559	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R560	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R561	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R562	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R563	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R564	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R565	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R566	1-216-671-11	METAL CHIP 6.8K 0.50% 1/10W	
R567	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R568	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R569	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R570	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R571	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R572	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R573	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R574	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R575	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R576	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R577	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R578	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R579	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R580	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R581	1-216-676-11	METAL CHIP 11K 0.50% 1/10W	
R582	1-216-676-11	METAL CHIP 11K 0.50% 1/10W	
R583	1-216-676-11	METAL CHIP 11K 0.50% 1/10W	
R584	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R585	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R586	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R587	1-216-697-11	METAL CHIP 82K 0.50% 1/10W	
R588	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R589	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R590	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R591	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R592	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R593	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R594	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R595	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R596	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R597	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R598	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R599	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R601	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R602	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R603	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R604	1-216-627-11	METAL CHIP 100 0.50% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R605	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R606	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R607	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R608	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R609	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R610	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R611	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R612	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R613	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R614	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R615	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R616	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R617	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R618	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R619	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R620	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R621	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R622	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R623	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R624	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R625	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R626	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R627	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R628	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R629	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R630	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R631	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R632	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R633	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R634	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R635	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R636	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R637	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R638	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R639	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R640	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R641	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R642	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R643	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R644	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R645	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R646	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R647	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R648	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R649	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R650	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R651	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R652	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R653	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R654	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R655	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R656	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R657	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R658	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R659	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R660	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R661	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R662	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R663	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R664	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R665	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R666	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R667	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R668	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R669	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R670	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R671	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R672	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R673	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R674	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R675	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R676	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R677	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R678	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R679	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R680	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R681	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R682	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R683	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R684	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R685	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R686	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R687	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R688	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R689	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R690	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R691	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R692	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R693	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R694	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R695	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R696	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R697	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R698	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R699	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R700	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R701	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R702	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R703	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R704	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R705	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R706	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R707	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R708	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R709	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R710	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R711	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R712	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R713	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R714	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R715	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R716	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R717	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R718	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R719	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R720	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R721	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R722	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R723	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R724	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R725	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R726	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R727	1-216-627-11	METAL CHIP 100 0.50% 1/10W	
R728	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R729	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R801	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R802	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R803	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R804	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R805	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R806	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R807	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R808	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R809	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R810	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R811	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R812	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R813	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R814	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R815	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R816	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R817	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R818	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R819	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R820	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R821	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	

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*A-1345-922-A DC BOARD, COMPLETE
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PART NO.	DESCRIPTION
*1-508-742-00	PIN, CONNECTOR 3P
*1-564-507-11	PLUG, CONNECTOR 4P
*1-564-508-11	PLUG, CONNECTOR 5P
*1-564-509-11	PLUG, CONNECTOR 6P
*1-564-514-11	PLUG, CONNECTOR 11P
*1-564-515-11	PLUG, CONNECTOR 12P
*4-395-525-01	HOLDER (D), TR
*4-395-527-01	HOLDER (B), TR
4-874-042-00	SHEET, INSULATING

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1	1-124-122-11	ELECT	100MF	20%	50V	
C2	1-126-101-11	ELECT	100MF	20%	16V	
C3	1-124-122-11	ELECT	100MF	20%	50V	
C4	1-126-101-11	ELECT	100MF	20%	16V	
C5	1-124-122-11	ELECT	100MF	20%	50V	
C6	1-102-963-00	CERAMIC	33PF	5%	50V	
C7	1-102-963-00	CERAMIC	33PF	5%	50V	
C8	1-136-157-00	FILM	0.022MF	5%	50V	
C9	1-124-791-11	ELECT	1MF	20%	50V	
C10	1-124-122-11	ELECT	100MF	20%	50V	
C11	1-102-963-00	CERAMIC	33PF	5%	50V	
C12	1-102-963-00	CERAMIC	33PF	5%	50V	
C13	1-136-157-00	FILM	0.022MF	5%	50V	
C14	1-124-791-11	ELECT	1MF	20%	50V	
C15	1-124-122-11	ELECT	100MF	20%	50V	
C16	1-102-963-00	CERAMIC	33PF	5%	50V	
C17	1-102-963-00	CERAMIC	33PF	5%	50V	
C18	1-136-157-00	FILM	0.022MF	5%	50V	
C19	1-124-791-11	ELECT	1MF	20%	50V	
C20	1-136-173-00	FILM	0.47MF	5%	50V	
C21	1-124-556-11	ELECT	2200MF	20%	16V	
C22	1-124-556-11	ELECT	2200MF	20%	16V	
C23	1-124-556-11	ELECT	2200MF	20%	16V	
C24	1-136-165-00	FILM	0.1MF	5%	50V	
C25	1-136-165-00	FILM	0.1MF	5%	50V	
C26	1-136-165-00	FILM	0.1MF	5%	50V	
C27	1-136-165-00	FILM	0.1MF	5%	50V	
C28	1-136-165-00	FILM	0.1MF	5%	50V	
C29	1-136-165-00	FILM	0.1MF	5%	50V	
C30	1-136-165-00	FILM	0.1MF	5%	50V	
C31	1-136-165-00	FILM	0.1MF	5%	50V	
C32	1-136-165-00	FILM	0.1MF	5%	50V	
C33	1-124-477-11	ELECT	47MF	20%	16V	
C34	1-124-791-11	ELECT	1MF	20%	50V	
C35	1-126-101-11	ELECT	100MF	20%	16V	
C101	1-102-824-00	CERAMIC	470PF	5%	50V	
C102	1-124-791-11	ELECT	1MF	20%	50V	
C103	1-101-004-00	CERAMIC	0.01MF		50V	
C104	1-124-122-11	ELECT	100MF	20%	50V	
C105	1-124-637-11	ELECT	1000MF	20%	50V	
C106	1-124-791-11	ELECT	1MF	20%	50V	
C107	1-101-004-00	CERAMIC	0.01MF		50V	
C108	1-124-122-11	ELECT	100MF	20%	50V	
C109	1-124-637-11	ELECT	1000MF	20%	50V	
C110	1-136-159-00	FILM	0.033MF	5%	50V	
C111	1-136-159-00	FILM	0.033MF	5%	50V	
C201	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C202	1-102-973-00	CERAMIC	100PF	5%	50V	
C203	1-102-973-00	CERAMIC	100PF	5%	50V	
C204	1-136-153-00	FILM	0.01MF	5%	50V	
C205	1-124-477-11	ELECT	47MF	20%	16V	
C206	1-124-122-11	ELECT	100MF	20%	50V	
C207	1-101-004-00	CERAMIC	0.01MF		50V	
C208	1-124-122-11	ELECT	100MF	20%	50V	
C209	1-101-004-00	CERAMIC	0.01MF		50V	
C210	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C211	1-102-973-00	CERAMIC	100PF	5%	50V	
C212	1-102-973-00	CERAMIC	100PF	5%	50V	
C213	1-136-153-00	FILM	0.01MF	5%	50V	
C214	1-124-477-11	ELECT	47MF	20%	16V	
C215	1-124-122-11	ELECT	100MF	20%	50V	
C216	1-101-004-00	CERAMIC	0.01MF		50V	
C217	1-124-122-11	ELECT	100MF	20%	50V	
C218	1-101-004-00	CERAMIC	0.01MF		50V	
C219	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C220	1-102-973-00	CERAMIC	100PF	5%	50V	
C221	1-102-973-00	CERAMIC	100PF	5%	50V	
C222	1-136-153-00	FILM	0.01MF	5%	50V	
C223	1-124-477-11	ELECT	47MF	20%	16V	
C224	1-124-122-11	ELECT	100MF	20%	50V	
C225	1-101-004-00	CERAMIC	0.01MF		50V	
C226	1-124-122-11	ELECT	100MF	20%	50V	
C227	1-101-004-00	CERAMIC	0.01MF		50V	
C228	1-123-875-11	ELECT	10MF	20%	50V	
C229	1-101-004-00	CERAMIC	0.01MF		50V	
C230	1-123-875-11	ELECT	10MF	20%	50V	
C231	1-101-004-00	CERAMIC	0.01MF		50V	
C232	1-123-875-11	ELECT	10MF	20%	50V	
C233	1-101-004-00	CERAMIC	0.01MF		50V	
C234	1-123-875-11	ELECT	10MF	20%	50V	
C235	1-101-004-00	CERAMIC	0.01MF		50V	
C236	1-123-875-11	ELECT	10MF	20%	50V	
C237	1-101-004-00	CERAMIC	0.01MF		50V	
C238	1-123-875-11	ELECT	10MF	20%	50V	
C239	1-101-004-00	CERAMIC	0.01MF		50V	
C243	1-102-978-00	CERAMIC	220PF	5%	50V	
C244	1-102-978-00	CERAMIC	220PF	5%	50V	
C245	1-102-978-00	CERAMIC	220PF	5%	50V	
C247	1-130-471-00	MYLAR	0.001MF	5%	50V	
C249	1-130-471-00	MYLAR	0.001MF	5%	50V	
C251	1-130-471-00	MYLAR	0.001MF	5%	50V	
C301	1-130-473-00	MYLAR	0.0015MF	5%	50V	

REF.NO.	PART NO.	DESCRIPTION			REMARK
C302	1-102-973-00	CERAMIC	100PF	5%	50V
C303	1-102-973-00	CERAMIC	100PF	5%	50V
C304	1-136-153-00	FILM	0.01MF	5%	50V
C305	1-124-477-11	ELECT	47MF	20%	16V
C306	1-124-122-11	ELECT	100MF	20%	50V
C307	1-101-004-00	CERAMIC	0.01MF		50V
C308	1-124-122-11	ELECT	100MF	20%	50V
C309	1-101-004-00	CERAMIC	0.01MF		50V
C310	1-130-473-00	MYLAR	0.0015MF	5%	50V
C311	1-102-973-00	CERAMIC	100PF	5%	50V
C312	1-102-973-00	CERAMIC	100PF	5%	50V
C313	1-136-153-00	FILM	0.01MF	5%	50V
C314	1-124-477-11	ELECT	47MF	20%	16V
C315	1-124-122-11	ELECT	100MF	20%	50V
C316	1-101-004-00	CERAMIC	0.01MF		50V
C317	1-124-122-11	ELECT	100MF	20%	50V
C318	1-101-004-00	CERAMIC	0.01MF		50V
C319	1-130-473-00	MYLAR	0.0015MF	5%	50V
C320	1-102-973-00	CERAMIC	100PF	5%	50V
C321	1-102-973-00	CERAMIC	100PF	5%	50V
C322	1-136-153-00	FILM	0.01MF	5%	50V
C323	1-124-477-11	ELECT	47MF	20%	16V
C324	1-124-477-11	ELECT	47MF	20%	16V
C325	1-101-004-00	CERAMIC	0.01MF		50V
C326	1-124-477-11	ELECT	47MF	20%	16V
C327	1-101-004-00	CERAMIC	0.01MF		50V
C328	1-123-875-11	ELECT	10MF	20%	50V
C329	1-101-004-00	CERAMIC	0.01MF		50V
C330	1-123-875-11	ELECT	10MF	20%	50V
C331	1-101-004-00	CERAMIC	0.01MF		50V
C332	1-123-875-11	ELECT	10MF	20%	50V
C333	1-101-004-00	CERAMIC	0.01MF		50V
C334	1-123-875-11	ELECT	10MF	20%	50V
C335	1-101-004-00	CERAMIC	0.01MF		50V
C336	1-123-875-11	ELECT	10MF	20%	50V
C337	1-101-004-00	CERAMIC	0.01MF		50V
C338	1-123-875-11	ELECT	10MF	20%	50V
C339	1-101-004-00	CERAMIC	0.01MF		50V
C343	1-102-824-00	CERAMIC	470PF	5%	50V
C344	1-102-824-00	CERAMIC	470PF	5%	50V
C345	1-102-824-00	CERAMIC	470PF	5%	50V
C347	1-130-471-00	MYLAR	0.001MF	5%	50V
C349	1-130-471-00	MYLAR	0.001MF	5%	50V
C351	1-130-471-00	MYLAR	0.001MF	5%	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1	8-719-900-95	DIODE V09G	
D2	8-719-900-95	DIODE V09G	
D3	8-719-900-95	DIODE V09G	
D4	8-719-911-19	DIODE 1SS119	
D5	8-719-900-95	DIODE V09G	
D6	8-719-911-19	DIODE 1SS119	
D7	8-719-900-95	DIODE V09G	
D8	8-719-911-19	DIODE 1SS119	
D9	8-719-911-19	DIODE 1SS119	
D10	8-719-911-19	DIODE 1SS119	
D11	8-719-911-19	DIODE 1SS119	
D12	8-719-911-19	DIODE 1SS119	
D13	8-719-911-19	DIODE 1SS119	
D14	8-719-911-19	DIODE 1SS119	
D15	8-719-911-19	DIODE 1SS119	
D16	8-719-911-19	DIODE 1SS119	
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-908-20	DIODE ERC88-009	
D103	8-719-908-20	DIODE ERC88-009	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-908-20	DIODE ERC88-009	
D106	8-719-908-20	DIODE ERC88-009	
D201	8-719-110-41	DIODE RD15ES-B2	
D202	8-719-109-66	DIODE RD3.3ES-B2	
D203	8-719-911-19	DIODE 1SS119	
D204	8-719-911-19	DIODE 1SS119	
D205	8-719-110-41	DIODE RD15ES-B2	
D206	8-719-109-66	DIODE RD3.3ES-B2	
D207	8-719-911-19	DIODE 1SS119	
D208	8-719-911-19	DIODE 1SS119	
D209	8-719-110-41	DIODE RD15ES-B2	
D210	8-719-109-66	DIODE RD3.3ES-B2	
D211	8-719-911-19	DIODE 1SS119	
D212	8-719-911-19	DIODE 1SS119	
D301	8-719-110-41	DIODE RD15ES-B2	
D302	8-719-109-66	DIODE RD3.3ES-B2	
D303	8-719-911-19	DIODE 1SS119	
D304	8-719-911-19	DIODE 1SS119	
D305	8-719-110-41	DIODE RD15ES-B2	
D306	8-719-109-66	DIODE RD3.3ES-B2	
D307	8-719-911-19	DIODE 1SS119	
D308	8-719-911-19	DIODE 1SS119	
D309	8-719-110-41	DIODE RD15ES-B2	
D310	8-719-109-66	DIODE RD3.3ES-B2	
D311	8-719-911-19	DIODE 1SS119	
D312	8-719-911-19	DIODE 1SS119	

<FERRITE BEAD INDUCTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FB1	1-410-396-41	FERRITE BEAD INDUCTOR	
FB2	1-410-396-41	FERRITE BEAD INDUCTOR	
FB3	1-410-396-41	FERRITE BEAD INDUCTOR	
FB4	1-410-396-41	FERRITE BEAD INDUCTOR	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1	8-759-982-13	IC RC7812FA	
IC2	8-759-929-65	IC UPC7912H	
IC3	8-759-945-58	IC RC4558PC	
IC4	8-759-113-13	IC UPC1498H	
IC5	8-759-945-58	IC RC4558PC	
IC6	8-759-113-13	IC UPC1498H	
IC7	8-759-945-58	IC RC4558PC	
IC8	8-759-113-13	IC UPC1498H	
IC9	8-759-945-58	IC RC4558PC	
IC101	8-759-109-82	IC UPC814C	
IC102	8-759-109-82	IC UPC814C	
IC103	8-759-109-82	IC UPC814C	
IC201	8-759-973-02	IC LM6364N	
IC202	8-759-973-02	IC LM6364N	
IC203	8-759-973-02	IC LM6364N	
IC301	8-759-973-02	IC LM6364N	
IC302	8-759-973-02	IC LM6364N	
IC303	8-759-973-02	IC LM6364N	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L101	1-459-155-00	COIL (WITH CORE) 45UH	
L102	1-459-155-00	COIL (WITH CORE) 45UH	
L103	1-459-155-00	COIL (WITH CORE) 45UH	
L104	1-459-155-00	COIL (WITH CORE) 45UH	

DC

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q3	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q4	8-729-900-89	TRANSISTOR DTC144ES	
Q5	8-729-900-89	TRANSISTOR DTC144ES	
Q6	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q7	8-729-900-89	TRANSISTOR DTC144ES	
Q8	8-729-900-89	TRANSISTOR DTC144ES	
Q9	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q10	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q11	8-729-900-89	TRANSISTOR DTC144ES	
Q12	8-729-900-89	TRANSISTOR DTC144ES	
Q13	8-729-900-89	TRANSISTOR DTC144ES	
Q14	8-729-900-89	TRANSISTOR DTC144ES	
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q102	8-729-105-72	TRANSISTOR 2SK523TP-L1	
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q104	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q105	8-729-142-68	TRANSISTOR 2SJ143	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q108	8-729-142-69	TRANSISTOR 2SK817	
Q201	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q202	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q203	8-729-142-74	TRANSISTOR 2SD1977	
Q204	8-729-142-70	TRANSISTOR 2SB1315	
Q205	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q206	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q207	8-729-142-74	TRANSISTOR 2SD1977	
Q208	8-729-142-70	TRANSISTOR 2SB1315	
Q209	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q210	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q211	8-729-142-74	TRANSISTOR 2SD1977	
Q212	8-729-142-70	TRANSISTOR 2SB1315	
Q301	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q302	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q303	8-729-142-74	TRANSISTOR 2SD1977	
Q304	8-729-142-70	TRANSISTOR 2SB1315	
Q305	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q306	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q307	8-729-142-74	TRANSISTOR 2SD1977	
Q308	8-729-142-70	TRANSISTOR 2SB1315	
Q309	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q310	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q311	8-729-142-74	TRANSISTOR 2SD1977	
Q312	8-729-142-70	TRANSISTOR 2SB1315	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1	1-215-463-00	METAL	56K	1%	1/6W	
R2	1-215-445-00	METAL	10K	1%	1/6W	
R3	1-215-445-00	METAL	10K	1%	1/6W	
R4	1-214-800-11	METAL	2.2	1%	1/2W	
R5	1-214-800-11	METAL	2.2	1%	1/2W	
R6	1-215-429-00	METAL	2.2K	1%	1/6W	
R7	1-215-421-00	METAL	1K	1%	1/6W	
R8	1-215-898-11	METAL OXIDE	10K	5%	2W	F
R9	1-249-433-11	CARBON	22K	5%	1/4W	
R10	1-249-417-11	CARBON	1K	5%	1/4W	
R11	1-249-441-11	CARBON	100K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-429-11	CARBON	10K	5%	1/4W	
R14	1-249-429-11	CARBON	10K	5%	1/4W	
R15	1-215-463-00	METAL	56K	1%	1/6W	
R16	1-215-445-00	METAL	10K	1%	1/6W	
R17	1-215-445-00	METAL	10K	1%	1/6W	
R18	1-214-800-11	METAL	2.2	1%	1/2W	
R19	1-214-800-11	METAL	2.2	1%	1/2W	
R20	1-215-429-00	METAL	2.2K	1%	1/6W	
R21	1-215-421-00	METAL	1K	1%	1/6W	
R22	1-215-898-11	METAL OXIDE	10K	5%	2W	F
R23	1-249-433-11	CARBON	22K	5%	1/4W	
R24	1-249-417-11	CARBON	1K	5%	1/4W	
R25	1-249-441-11	CARBON	100K	5%	1/4W	
R26	1-249-429-11	CARBON	10K	5%	1/4W	
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-249-429-11	CARBON	10K	5%	1/4W	
R29	1-215-463-00	METAL	56K	1%	1/6W	
R30	1-215-445-00	METAL	10K	1%	1/6W	
R31	1-215-445-00	METAL	10K	1%	1/6W	
R32	1-214-800-11	METAL	2.2	1%	1/2W	
R33	1-214-800-11	METAL	2.2	1%	1/2W	
R34	1-215-429-00	METAL	2.2K	1%	1/6W	
R35	1-215-421-00	METAL	1K	1%	1/6W	
R36	1-215-898-11	METAL OXIDE	10K	5%	2W	F
R37	1-249-433-11	CARBON	22K	5%	1/4W	
R38	1-249-417-11	CARBON	1K	5%	1/4W	
R39	1-249-441-11	CARBON	100K	5%	1/4W	
R40	1-249-429-11	CARBON	10K	5%	1/4W	
R41	1-249-429-11	CARBON	10K	5%	1/4W	
R42	1-249-429-11	CARBON	10K	5%	1/4W	
R43	1-249-429-11	CARBON	10K	5%	1/4W	
R44	1-249-429-11	CARBON	10K	5%	1/4W	
R45	1-249-417-11	CARBON	1K	5%	1/4W	
R46	1-249-433-11	CARBON	22K	5%	1/4W	
R47	1-249-433-11	CARBON	22K	5%	1/4W	
R48	1-249-429-11	CARBON	10K	5%	1/4W	
R49	1-249-429-11	CARBON	10K	5%	1/4W	
R50	1-249-437-11	CARBON	47K	5%	1/4W	
R51	1-249-417-11	CARBON	1K	5%	1/4W	
R52	1-249-417-11	CARBON	1K	5%	1/4W	
R53	1-249-437-11	CARBON	47K	5%	1/4W	
R54	1-249-417-11	CARBON	1K	5%	1/4W	
R55	1-215-883-11	METAL OXIDE	33	5%	2W	F
R56	1-249-433-11	CARBON	22K	5%	1/4W	
R57	1-249-429-11	CARBON	10K	5%	1/4W	
R58	1-249-417-11	CARBON	1K	5%	1/4W	
R59	1-215-883-11	METAL OXIDE	33	5%	2W	F
R60	1-215-883-11	METAL OXIDE	33	5%	2W	F
R61	1-215-463-00	METAL	56K	1%	1/6W	
R62	1-215-463-00	METAL	56K	1%	1/6W	
R63	1-215-463-00	METAL	56K	1%	1/6W	
R64	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R65	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R66	1-249-425-11	CARBON	4.7K	5%	1/4W	
R67	1-249-429-11	CARBON	10K	5%	1/4W	
R68	1-249-433-11	CARBON	22K	5%	1/4W	
R69	1-249-429-11	CARBON	10K	5%	1/4W	
R70	1-249-429-11	CARBON	10K	5%	1/4W	
R71	1-249-433-11	CARBON	22K	5%	1/4W	
R72	1-249-429-11	CARBON	10K	5%	1/4W	
R73	1-249-441-11	CARBON	100K	5%	1/4W	
R74	1-249-425-11	CARBON	4.7K	5%	1/4W	
R75	1-216-363-00	METAL OXIDE	0.33	5%	2W	F

REF.NO.	PART NO.	DESCRIPTION				REMARK
R76	1-216-363-00	METAL OXIDE	0.33	5%	2W	F
R77	1-249-417-11	CARBON	1K	5%	1/4W	
R78	1-249-417-11	CARBON	1K	5%	1/4W	
R101	1-249-417-11	CARBON	1K	5%	1/4W	
R102	1-249-417-11	CARBON	1K	5%	1/4W	
R103	1-249-419-11	CARBON	1.5K	5%	1/4W	
R104	1-249-429-11	CARBON	10K	5%	1/4W	
R105	1-249-425-11	CARBON	4.7K	5%	1/4W	
R106	1-249-417-11	CARBON	1K	5%	1/4W	
R107	1-249-393-11	CARBON	10	5%	1/4W	F
R108	1-249-393-11	CARBON	10	5%	1/4W	F
R109	1-249-405-11	CARBON	100	5%	1/4W	
R110	1-249-393-11	CARBON	10	5%	1/4W	
R111	1-249-417-11	CARBON	1K	5%	1/4W	
R112	1-249-393-11	CARBON	10	5%	1/4W	F
R113	1-249-393-11	CARBON	10	5%	1/4W	F
R114	1-249-405-11	CARBON	100	5%	1/4W	
R115	1-249-393-11	CARBON	10	5%	1/4W	
R201	1-215-425-00	METAL	1.5K	1%	1/6W	
R202	1-215-445-00	METAL	10K	1%	1/6W	
R203	1-215-421-00	METAL	1K	1%	1/6W	
R204	1-215-417-00	METAL	680	1%	1/6W	
R205	1-215-435-00	METAL	3.9K	1%	1/6W	
R206	1-215-421-00	METAL	1K	1%	1/6W	
R207	1-215-421-00	METAL	1K	1%	1/6W	
R208	1-214-814-11	METAL	8.2	1%	1/2W	
R209	1-214-814-11	METAL	8.2	1%	1/2W	
R210	1-214-814-11	METAL	8.2	1%	1/2W	
R211	1-214-814-11	METAL	8.2	1%	1/2W	
R212	1-214-814-11	METAL	8.2	1%	1/2W	
R213	1-214-814-11	METAL	8.2	1%	1/2W	
R214	1-249-435-11	CARBON	33K	5%	1/4W	
R215	1-249-426-11	CARBON	5.6K	5%	1/4W	
R216	1-249-415-11	CARBON	680	5%	1/4W	F
R217	1-249-427-11	CARBON	6.8K	5%	1/4W	
R218	1-249-407-11	CARBON	150	5%	1/4W	
R219	1-249-403-11	CARBON	68	5%	1/4W	F
R221	1-216-369-00	METAL OXIDE	1	5%	2W	F
R222	1-216-369-00	METAL OXIDE	1	5%	2W	F
R223	1-215-888-00	METAL OXIDE	220	5%	2W	F
R224	1-215-425-00	METAL	1.5K	1%	1/6W	
R225	1-215-445-00	METAL	10K	1%	1/6W	
R226	1-215-421-00	METAL	1K	1%	1/6W	
R227	1-215-417-00	METAL	680	1%	1/6W	
R228	1-215-435-00	METAL	3.9K	1%	1/6W	
R229	1-215-421-00	METAL	1K	1%	1/6W	
R230	1-215-421-00	METAL	1K	1%	1/6W	
R231	1-214-814-11	METAL	8.2	1%	1/2W	
R232	1-214-814-11	METAL	8.2	1%	1/2W	
R233	1-214-814-11	METAL	8.2	1%	1/2W	
R234	1-214-814-11	METAL	8.2	1%	1/2W	
R235	1-214-814-11	METAL	8.2	1%	1/2W	
R236	1-214-814-11	METAL	8.2	1%	1/2W	
R237	1-249-435-11	CARBON	33K	5%	1/4W	
R238	1-249-426-11	CARBON	5.6K	5%	1/4W	
R239	1-249-415-11	CARBON	680	5%	1/4W	F
R240	1-249-427-11	CARBON	6.8K	5%	1/4W	
R241	1-249-407-11	CARBON	150	5%	1/4W	
R242	1-249-403-11	CARBON	68	5%	1/4W	F
R244	1-216-369-00	METAL OXIDE	1	5%	2W	F
R245	1-216-369-00	METAL OXIDE	1	5%	2W	F
R246	1-215-888-00	METAL OXIDE	220	5%	2W	F
R247	1-215-425-00	METAL	1.5K	1%	1/6W	
R248	1-215-445-00	METAL	10K	1%	1/6W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R249	1-215-421-00	METAL	1K	1%	1/6W	
R250	1-215-417-00	METAL	680	1%	1/6W	
R251	1-215-435-00	METAL	3.9K	1%	1/6W	
R252	1-215-421-00	METAL	1K	1%	1/6W	
R253	1-215-421-00	METAL	1K	1%	1/6W	
R254	1-214-814-11	METAL	8.2	1%	1/2W	
R255	1-214-814-11	METAL	8.2	1%	1/2W	
R256	1-214-814-11	METAL	8.2	1%	1/2W	
R257	1-214-814-11	METAL	8.2	1%	1/2W	
R258	1-214-814-11	METAL	8.2	1%	1/2W	
R259	1-214-814-11	METAL	8.2	1%	1/2W	
R260	1-249-435-11	CARBON	33K	5%	1/4W	
R261	1-249-426-11	CARBON	5.6K	5%	1/4W	
R262	1-249-415-11	CARBON	680	5%	1/4W	F
R263	1-249-427-11	CARBON	6.8K	5%	1/4W	
R264	1-249-407-11	CARBON	150	5%	1/4W	
R265	1-249-403-11	CARBON	68	5%	1/4W	F
R267	1-216-369-00	METAL OXIDE	1	5%	2W	F
R268	1-216-369-00	METAL OXIDE	1	5%	2W	F
R269	1-215-888-00	METAL OXIDE	220	5%	2W	F
R270	1-249-405-11	CARBON	100	5%	1/4W	
R271	1-249-405-11	CARBON	100	5%	1/4W	
R272	1-249-405-11	CARBON	100	5%	1/4W	
R273	1-249-405-11	CARBON	100	5%	1/4W	
R274	1-249-405-11	CARBON	100	5%	1/4W	
R275	1-249-405-11	CARBON	100	5%	1/4W	
R301	1-215-427-00	METAL	1.8K	1%	1/6W	
R302	1-215-445-00	METAL	10K	1%	1/6W	
R303	1-215-421-00	METAL	1K	1%	1/6W	
R304	1-215-411-00	METAL	390	1%	1/6W	
R305	1-215-435-00	METAL	3.9K	1%	1/6W	
R306	1-215-421-00	METAL	1K	1%	1/6W	
R307	1-215-421-00	METAL	1K	1%	1/6W	
R308	1-214-814-11	METAL	8.2	1%	1/2W	
R309	1-214-814-11	METAL	8.2	1%	1/2W	
R310	1-214-814-11	METAL	8.2	1%	1/2W	
R311	1-214-814-11	METAL	8.2	1%	1/2W	
R312	1-214-814-11	METAL	8.2	1%	1/2W	
R313	1-214-814-11	METAL	8.2	1%	1/2W	
R314	1-249-435-11	CARBON	33K	5%	1/4W	
R315	1-249-426-11	CARBON	5.6K	5%	1/4W	
R316	1-249-415-11	CARBON	680	5%	1/4W	F
R317	1-249-427-11	CARBON	6.8K	5%	1/4W	
R318	1-249-407-11	CARBON	150	5%	1/4W	
R319	1-249-403-11	CARBON	68	5%	1/4W	F
R321	1-216-369-00	METAL OXIDE	1	5%	2W	F
R322	1-216-369-00	METAL OXIDE	1	5%	2W	F
R323	1-215-888-00	METAL OXIDE	220	5%	2W	F
R324	1-215-427-00	METAL	1.8K	1%	1/6W	
R325	1-215-445-00	METAL	10K	1%	1/6W	
R326	1-215-421-00	METAL	1K	1%	1/6W	
R327	1-215-411-00	METAL	390	1%	1/6W	
R328	1-215-435-00	METAL	3.9K	1%	1/6W	
R329	1-215-421-00	METAL	1K	1%	1/6W	
R330	1-215-421-00	METAL	1K	1%	1/6W	
R331	1-214-814-11	METAL	8.2	1%	1/2W	
R332	1-214-814-11	METAL	8.2	1%	1/2W	
R333	1-214-814-11	METAL	8.2	1%	1/2W	
R334	1-214-814-11	METAL	8.2	1%	1/2W	
R335	1-214-814-11	METAL	8.2	1%	1/2W	
R336	1-214-814-11	METAL	8.2	1%	1/2W	
R337	1-249-435-11	CARBON	33K	5%	1/4W	
R338	1-249-426-11	CARBON	5.6K	5%	1/4W	

DC **E**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R339	1-249-415-11	CARBON	680	5%	1/4W	F
R340	1-249-427-11	CARBON	6.8K	5%	1/4W	
R341	1-249-407-11	CARBON	150	5%	1/4W	
R342	1-249-403-11	CARBON	68	5%	1/4W	F
R344	1-216-369-00	METAL OXIDE	1	5%	2W	F
R345	1-216-369-00	METAL OXIDE	1	5%	2W	F
R346	1-215-888-00	METAL OXIDE	220	5%	2W	F
R347	1-215-427-00	METAL	1.8K	1%	1/6W	
R348	1-215-445-00	METAL	10K	1%	1/6W	
R349	1-215-421-00	METAL	1K	1%	1/6W	
R350	1-215-411-00	METAL	390	1%	1/6W	
R351	1-215-435-00	METAL	3.9K	1%	1/6W	
R352	1-215-421-00	METAL	1K	1%	1/6W	
R353	1-215-421-00	METAL	1K	1%	1/6W	
R354	1-214-814-11	METAL	8.2	1%	1/2W	
R355	1-214-814-11	METAL	8.2	1%	1/2W	
R356	1-214-814-11	METAL	8.2	1%	1/2W	
R357	1-214-814-11	METAL	8.2	1%	1/2W	
R358	1-214-814-11	METAL	8.2	1%	1/2W	
R359	1-214-814-11	METAL	8.2	1%	1/2W	
R360	1-249-435-11	CARBON	33K	5%	1/4W	
R361	1-249-426-11	CARBON	5.6K	5%	1/4W	
R362	1-249-415-11	CARBON	680	5%	1/4W	F
R363	1-249-427-11	CARBON	6.8K	5%	1/4W	
R364	1-249-404-00	CARBON	82	5%	1/4W	
R365	1-249-400-11	CARBON	39	5%	1/4W	F
R367	1-216-369-00	METAL OXIDE	1	5%	2W	F
R368	1-216-369-00	METAL OXIDE	1	5%	2W	F
R369	1-215-888-00	METAL OXIDE	220	5%	2W	F
R370	1-249-405-11	CARBON	100	5%	1/4W	
R371	1-249-405-11	CARBON	100	5%	1/4W	
R372	1-249-405-11	CARBON	100	5%	1/4W	
R373	1-249-405-11	CARBON	100	5%	1/4W	
R374	1-249-405-11	CARBON	100	5%	1/4W	
R375	1-249-405-11	CARBON	100	5%	1/4W	

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	PART NO.	DESCRIPTION
	*A-1345-923-A	E BOARD, COMPLETE *****************
	*1-508-742-00	PIN, CONNECTOR 3P
	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
	*1-564-509-11	PLUG, CONNECTOR 6P
	*1-564-514-11	PLUG, CONNECTOR 11P
	*1-564-516-11	PLUG, CONNECTOR 13P
	*1-568-536-11	PLUG (MINIATURE DY) 6P
	*4-341-751-01	EYELET
	*4-341-752-01	EYELET

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1	1-126-899-11	ELECT	3900MF	20%	16V	
C2	1-126-899-11	ELECT	3900MF	20%	16V	
C3	1-126-899-11	ELECT	3900MF	20%	16V	
C4	1-102-824-00	CERAMIC	470PF	5%	50V	
C5	1-136-153-00	FILM	0.01MF	5%	50V	
C6	1-102-824-00	CERAMIC	470PF	5%	50V	
C7	1-102-824-00	CERAMIC	470PF	5%	50V	
C8	1-136-153-00	FILM	0.01MF	5%	50V	
C9	1-102-824-00	CERAMIC	470PF	5%	50V	
C10	1-136-153-00	FILM	0.01MF	5%	50V	
C11	1-102-824-00	CERAMIC	470PF	5%	50V	
C12	1-102-824-00	CERAMIC	470PF	5%	50V	
C13	1-130-908-00	FILM	0.0039MF	3%	1.6KV	
C14	1-130-908-00	FILM	0.0039MF	3%	1.6KV	
C15	1-124-585-11	ELECT	3300MF	20%	10V	
C16	1-124-585-11	ELECT	3300MF	20%	10V	
C17	1-123-935-00	ELECT	33MF	20%	160V	
C18	1-129-996-00	FILM	0.22MF	20%	630V	
C19	1-124-585-11	ELECT	3300MF	20%	10V	
C21	1-136-945-11	FILM	8.2MF	5%	200V	
C22	1-136-945-11	FILM	8.2MF	5%	200V	
C23	1-136-945-11	FILM	8.2MF	5%	200V	
C24	1-136-945-11	FILM	8.2MF	5%	200V	
C30	1-136-613-11	FILM	0.0068MF	3%	2KV	
C31	1-106-391-12	MYLAR	0.1MF	10%	200V	
C32	1-123-875-11	ELECT	10MF	20%	50V	
C35	1-102-244-00	CERAMIC	220PF	10%	500V	
C36	1-162-115-00	CERAMIC	330PF	15%	1.5KV	
C37	1-162-115-00	CERAMIC	330PF	15%	1.5KV	
C38	1-162-115-00	CERAMIC	330PF	15%	1.5KV	
C101	1-102-973-00	CERAMIC	100PF	5%	50V	
C102	1-136-159-00	FILM	0.033MF	5%	50V	
C104	1-136-165-00	FILM	0.1MF	5%	50V	
C105	1-136-165-00	FILM	0.1MF	5%	50V	
C106	1-126-101-11	ELECT	100MF	20%	16V	
C108	1-124-360-00	ELECT	1000MF	20%	16V	
C109	1-124-791-11	ELECT	1MF	20%	50V	
C110	1-126-101-11	ELECT	100MF	20%	16V	
C111	1-126-101-11	ELECT	100MF	20%	16V	
C112	1-126-101-11	ELECT	100MF	20%	16V	
C113	1-126-233-11	ELECT	22MF	20%	50V	
C114	1-124-499-11	ELECT	1MF	20%	50V	
C115	1-136-153-00	FILM	0.01MF	5%	50V	
C116	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C117	1-102-973-00	CERAMIC	100PF	5%	50V	
C118	1-136-165-00	FILM	0.1MF	5%	50V	
C119	1-126-101-11	ELECT	100MF	20%	16V	
C120	1-123-939-00	ELECT	10MF	20%	200V	
C121	1-136-159-00	FILM	0.033MF	5%	50V	
C122	1-123-024-21	ELECT	33MF		160V	
C123	1-123-024-21	ELECT	33MF		160V	
C124	1-125-499-11	ELECT(BLOCK)	220MF	20%	200V	
C125	1-136-153-00	FILM	0.01MF	5%	50V	
C126	1-130-471-00	MYLAR	0.001MF	5%	50V	
C127	1-124-360-00	ELECT	1000MF	20%	16V	
C128	1-123-939-00	ELECT	10MF	20%	200V	
C129	1-123-939-00	ELECT	10MF	20%	200V	
C130	1-124-120-11	ELECT	220MF	20%	16V	
C131	1-124-120-11	ELECT	220MF	20%	16V	
C132	1-123-024-21	ELECT	33MF		160V	
C133	1-124-499-11	ELECT	1MF	20%	50V	
C134	1-124-478-11	ELECT	100MF	20%	25V	
C135	1-124-478-11	ELECT	100MF	20%	25V	
C136	1-126-233-11	ELECT	22MF	20%	50V	
C137	1-102-973-00	CERAMIC	100PF	5%	50V	
C138	1-123-875-11	ELECT	10MF	20%	50V	
C139	1-124-360-00	ELECT	1000MF	20%	16V	
C140	1-136-169-00	FILM	0.22MF	5%	50V	
C141	1-130-471-00	MYLAR	0.001MF	5%	50V	
C142	1-125-499-11	ELECT(BLOCK)	220MF	20%	200V	
C143	1-102-824-00	CERAMIC	470PF	5%	50V	
C144	1-136-165-00	FILM	0.1MF	5%	50V	
C145	1-136-153-00	FILM	0.01MF	5%	50V	
C146	1-136-173-00	FILM	0.47MF	5%	50V	
C147	1-136-173-00	FILM	0.47MF	5%	50V	
C148	1-126-101-11	ELECT	100MF	20%	16V	
C149	1-123-875-11	ELECT	10MF	20%	50V	

REF.NO.	PART NO.	DESCRIPTION			REMARK
C150	1-130-471-00	MYLAR	0.001MF	5%	50V
C151	1-124-791-11	ELECT	1MF	20%	50V
C152	1-136-165-00	FILM	0.1MF	5%	50V
C153	1-124-963-11	ELECT	33MF	20%	16V
C154	1-136-165-00	FILM	0.1MF	5%	50V
C155	1-136-153-00	FILM	0.01MF	5%	50V
C156	1-136-165-00	FILM	0.1MF	5%	50V
C157	1-136-157-00	FILM	0.022MF	5%	50V
C158	1-124-046-00	ELECT	10MF		160V
C159	1-136-111-00	FILM	1MF	5%	200V
C160	1-136-111-00	FILM	1MF	5%	200V
C161	1-124-791-11	ELECT	1MF	20%	50V
C162	1-136-111-00	FILM	1MF	5%	200V
C163	1-123-875-11	ELECT	10MF	20%	50V
C164	1-123-875-11	ELECT	10MF	20%	50V
C165	1-123-875-11	ELECT	10MF	20%	50V
C166	1-123-875-11	ELECT	10MF	20%	50V
C167	1-102-824-00	CERAMIC	470PF	5%	50V
C168	1-136-153-00	FILM	0.01MF	5%	50V
C169	1-124-768-11	ELECT	4.7MF	20%	50V
C170	1-124-963-11	ELECT	33MF	20%	16V
C171	1-136-165-00	FILM	0.1MF	5%	50V
C172	1-123-875-11	ELECT	10MF	20%	50V
C173	1-124-963-11	ELECT	33MF	20%	16V
C174	1-124-963-11	ELECT	33MF	20%	16V
C175	1-130-706-00	FILM	0.008MF	3%	1.6KV
C176	1-106-391-12	MYLAR	0.1MF	10%	200V
C178	1-101-004-00	CERAMIC	0.01MF		50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1	8-719-970-89	DIODE, DD50R	
D7	8-719-908-20	DIODE ERC88-009	
D8	8-719-908-20	DIODE ERC88-009	
D9	8-719-971-20	DIODE ERC38-06	
D10	8-719-971-20	DIODE ERC38-06	
D11	8-719-901-19	DIODE V11N	
D12	8-719-971-20	DIODE ERC38-06	
D13	8-719-305-15	DIODE GH-3F	
D14	8-719-900-95	DIODE V09G	
D15	8-719-933-02	DIODE ERD33-02	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-938-28	DIODE ERA22-06	
D106	8-719-938-28	DIODE ERA22-06	
D107	8-719-911-19	DIODE 1SS119	
D108	8-719-911-19	DIODE 1SS119	
D109	8-719-938-28	DIODE ERA22-06	
D110	8-719-911-19	DIODE 1SS119	
D111	8-719-911-19	DIODE 1SS119	
D112	8-719-900-26	DIODE ERD29-08J	
D113	8-719-911-19	DIODE 1SS119	
D114	8-719-110-53	DIODE RD20ES-B2	
D115	8-719-110-53	DIODE RD20ES-B2	
D116	8-719-920-67	DIODE ERC91-02	
D117	8-719-911-19	DIODE 1SS119	
D118	8-719-938-28	DIODE ERA22-06	
D119	8-719-911-19	DIODE 1SS119	
D120	8-719-911-19	DIODE 1SS119	
D121	8-719-911-19	DIODE 1SS119	
D122	8-719-911-19	DIODE 1SS119	
D123	8-719-911-19	DIODE 1SS119	
D124	8-719-938-28	DIODE ERA22-06	
D125	8-719-911-19	DIODE 1SS119	

REF.NO.	PART NO.	DESCRIPTION	REMARK
D126	8-719-110-88	DIODE RD39ES-B2	
D127	8-719-110-41	DIODE RD15ES-B2	
D128	8-719-110-41	DIODE RD15ES-B2	
D129	8-719-110-41	DIODE RD15ES-B2	
D130	8-719-110-41	DIODE RD15ES-B2	
D131	8-719-911-19	DIODE 1SS119	
D132	8-719-911-19	DIODE 1SS119	
D133	8-719-911-19	DIODE 1SS119	
D134	8-719-300-80	DIODE RU-1C	
D135	8-719-300-80	DIODE RU-1C	
D136	8-719-300-80	DIODE RU-1C	
D137	8-719-300-80	DIODE RU-1C	
D138	8-719-911-19	DIODE 1SS119	
D139	8-719-911-19	DIODE 1SS119	
D140	8-719-911-19	DIODE 1SS119	
D141	8-719-911-19	DIODE 1SS119	
D142	8-719-911-19	DIODE 1SS119	
D143	8-719-911-19	DIODE 1SS119	
D144	8-719-901-19	DIODE V11N	
D145	8-719-911-19	DIODE 1SS119	
D146	8-719-938-28	DIODE ERA22-06	
D147	8-719-110-08	DIODE RD8.2ES-B2	
D148	8-719-110-41	DIODE RD15ES-B2	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
E12	*1-564-506-11	PLUG, CONNECTOR 3P	

<FERRITE BEAD INDUCTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FB1	1-410-396-41	FERRITE BEAD INDUCTOR	
FB2	1-410-396-41	FERRITE BEAD INDUCTOR	
FB3	1-410-396-41	FERRITE BEAD INDUCTOR	
FB4	1-410-396-41	FERRITE BEAD INDUCTOR	
FB5	1-410-396-41	FERRITE BEAD INDUCTOR	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1	8-759-945-58	IC RC4558PC	
IC2	8-759-945-58	IC RC4558PC	
IC3	8-759-945-58	IC RC4558PC	
IC101	8-759-345-38	IC HD14538BP	
IC102	8-759-109-82	IC UPC814C	
IC103	8-759-109-82	IC UPC814C	
IC104	8-759-945-58	IC RC4558PC	
IC105	8-759-945-58	IC RC4558PC	
IC106	8-759-945-58	IC RC4558PC	
IC107	8-759-014-95	IC MC1495L	
IC108	8-759-945-58	IC RC4558PC	
IC109	8-759-982-13	IC RC7812FA	
IC110	8-759-929-65	IC UPC7912H	
IC111	8-759-100-75	IC UPC1394C	
IC112	8-759-945-58	IC RC4558PC	
IC113	8-759-103-93	IC UPC393C	
IC114	8-759-103-93	IC UPC393C	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L100	1-459-155-00	COIL (WITH CORE) 45UH	
L102	1-459-155-00	COIL (WITH CORE) 45UH	
L103	1-459-155-00	COIL (WITH CORE) 45UH	
L104	1-459-155-00	COIL (WITH CORE) 45UH	
L106	1-459-483-00	COIL (WITH CORE)	

E

REF.NO.	PART NO.	DESCRIPTION	REMARK
L107	1-410-093-11	INDUCTOR 33MMH	
L108	1-410-093-11	INDUCTOR 33MMH	
L109	1-459-104-00	COIL, DUST CORE	
L110	1-459-104-00	COIL, DUST CORE	
L111	1-410-093-11	INDUCTOR 33MMH	
L112	1-460-022-11	COIL, CHOKE 1.3MMH	
L113	1-410-680-31	INDUCTOR 330UH	
L114	1-410-686-11	INDUCTOR 1MMH	
L115	1-407-500-00	INDUCTOR 4.7MMH	
LV1	1-460-019-11	COIL, HORIZONTAL ADJUSTMENT	
LV2	1-460-019-11	COIL, HORIZONTAL ADJUSTMENT	
LV3	1-460-019-11	COIL, HORIZONTAL ADJUSTMENT	
		<TRANSISTOR>	
Q1	8-729-142-69	TRANSISTOR 2SK817	
Q2	8-729-142-68	TRANSISTOR 2SJ143	
Q3	8-729-142-69	TRANSISTOR 2SK817	
Q4	8-729-142-68	TRANSISTOR 2SJ143	
Q5	8-729-142-69	TRANSISTOR 2SK817	
Q6	8-729-142-68	TRANSISTOR 2SJ143	
Q7	8-729-822-01	TRANSISTOR 2SC3998	
Q21	8-729-801-75	TRANSISTOR 2SD1403	
Q22	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q101	8-729-105-74	TRANSISTOR 2SK523-M1	
Q102	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q104	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-140-96	TRANSISTOR 2SD774-34	
Q108	8-729-140-97	TRANSISTOR 2SB734-34	
Q109	8-729-105-74	TRANSISTOR 2SK523-M1	
Q110	8-729-143-42	TRANSISTOR 2SK929	
Q111	8-729-143-42	TRANSISTOR 2SK929	
Q112	8-729-142-68	TRANSISTOR 2SJ143	
Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q115	8-729-900-80	TRANSISTOR DTC114ES	
Q116	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q117	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q118	8-729-105-74	TRANSISTOR 2SK523-M1	
Q119	8-729-900-80	TRANSISTOR DTC114ES	
Q120	8-729-802-71	TRANSISTOR 2SA1407	
Q121	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q122	8-729-900-80	TRANSISTOR DTC114ES	
Q127	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q128	8-729-900-80	TRANSISTOR DTC114ES	
Q129	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q130	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q131	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q132	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q133	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q134	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q135	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q136	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q137	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q138	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q139	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q140	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q141	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q142	8-729-143-42	TRANSISTOR 2SK929	
Q143	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q144	8-729-905-86	TRANSISTOR 2SC4054N	
Q145	8-729-402-03	TRANSISTOR 2SK755	
Q146	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q147	8-729-905-86	TRANSISTOR 2SC4054N	
Q148	8-729-802-71	TRANSISTOR 2SA1407	
Q149	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q150	8-729-402-03	TRANSISTOR 2SK755	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R2	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R3	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R4	1-249-417-11	CARBON	1K	5%	1/4W	
R5	1-215-445-00	METAL	10K	1%	1/6W	
R7	1-215-445-00	METAL	10K	1%	1/6W	
R8	1-215-445-00	METAL	10K	1%	1/6W	
R9	1-215-445-00	METAL	10K	1%	1/6W	
R10	1-249-417-11	CARBON	1K	5%	1/4W	
R11	1-214-824-11	METAL	22	1%	1/2W	
R12	1-214-824-11	METAL	22	1%	1/2W	
R13	1-214-824-11	METAL	22	1%	1/2W	
R14	1-249-417-11	CARBON	1K	5%	1/4W	
R15	1-215-445-00	METAL	10K	1%	1/6W	
R17	1-215-445-00	METAL	10K	1%	1/6W	
R18	1-215-445-00	METAL	10K	1%	1/6W	
R19	1-215-445-00	METAL	10K	1%	1/6W	
R20	1-249-417-11	CARBON	1K	5%	1/4W	
R21	1-214-832-00	METAL	47	1%	1/2W	
R22	1-214-832-00	METAL	47	1%	1/2W	
R23	1-214-832-00	METAL	47	1%	1/2W	
R24	1-249-417-11	CARBON	1K	5%	1/4W	
R25	1-215-445-00	METAL	10K	1%	1/6W	
R27	1-215-445-00	METAL	10K	1%	1/6W	
R28	1-215-445-00	METAL	10K	1%	1/6W	
R29	1-215-445-00	METAL	10K	1%	1/6W	
R30	1-249-417-11	CARBON	1K	5%	1/4W	
R31	1-214-824-11	METAL	22	1%	1/2W	
R32	1-214-824-11	METAL	22	1%	1/2W	
R33	1-214-824-11	METAL	22	1%	1/2W	
R34	1-214-824-11	METAL	22	1%	1/2W	
R35	1-214-824-11	METAL	22	1%	1/2W	
R36	1-214-824-11	METAL	22	1%	1/2W	
R37	1-214-832-00	METAL	47	1%	1/2W	
R38	1-214-832-00	METAL	47	1%	1/2W	
R39	1-214-832-00	METAL	47	1%	1/2W	
R40	1-214-824-11	METAL	22	1%	1/2W	
R41	1-214-824-11	METAL	22	1%	1/2W	
R42	1-214-824-11	METAL	22	1%	1/2W	
R51	1-249-479-11	CARBON	2.7	5%	1/2W	F
R52	1-249-479-11	CARBON	2.7	5%	1/2W	F
R53	1-249-479-11	CARBON	2.7	5%	1/2W	F
R54	1-215-857-11	METAL OXIDE	10	5%	1W	F
R55	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R56	1-247-716-11	CARBON	1.8K	5%	1/4W	F
R57	1-249-405-11	CARBON	100	5%	1/4W	
R58	1-249-405-11	CARBON	100	5%	1/4W	
R59	1-249-405-11	CARBON	100	5%	1/4W	
R60	1-249-405-11	CARBON	100	5%	1/4W	
R61	1-249-405-11	CARBON	100	5%	1/4W	
R62	1-249-405-11	CARBON	100	5%	1/4W	
R63	1-247-700-11	CARBON	100	5%	1/4W	F
R64	1-247-700-11	CARBON	100	5%	1/4W	F
R65	1-247-700-11	CARBON	100	5%	1/4W	F
R66	1-215-905-11	METAL OXIDE	10	5%	3W	F
R67	1-216-397-11	METAL OXIDE	4.7	5%	3W	F

REF.NO.	PART NO.	DESCRIPTION				REMARK
R68	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R69	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R101	1-215-457-00	METAL	33K	1%	1/6W	
R102	1-249-429-11	CARBON	10K	5%	1/4W	
R103	1-249-429-11	CARBON	10K	5%	1/4W	
R105	1-249-425-11	CARBON	4.7K	5%	1/4W	
R106	1-215-445-00	METAL	10K	1%	1/6W	
R107	1-249-429-11	CARBON	10K	5%	1/4W	
R109	1-249-429-11	CARBON	10K	5%	1/4W	
R110	1-249-417-11	CARBON	1K	5%	1/4W	
R111	1-249-429-11	CARBON	10K	5%	1/4W	
R112	1-249-425-11	CARBON	4.7K	5%	1/4W	
R113	1-249-405-11	CARBON	100	5%	1/4W	
R114	1-249-417-11	CARBON	1K	5%	1/4W	
R115	1-215-445-00	METAL	10K	1%	1/6W	
R116	1-215-445-00	METAL	10K	1%	1/6W	
R117	1-215-433-00	METAL	3.3K	1%	1/6W	
R118	1-249-423-11	CARBON	3.3K	5%	1/4W	
R119	1-215-457-00	METAL	33K	1%	1/6W	
R120	1-215-457-00	METAL	33K	1%	1/6W	
R121	1-215-445-00	METAL	10K	1%	1/6W	
R122	1-249-425-11	CARBON	4.7K	5%	1/4W	
R123	1-215-445-00	METAL	10K	1%	1/6W	
R124	1-215-445-00	METAL	10K	1%	1/6W	
R125	1-215-457-00	METAL	33K	1%	1/6W	
R126	1-215-457-00	METAL	33K	1%	1/6W	
R127	1-215-447-00	METAL	12K	1%	1/6W	
R128	1-215-445-00	METAL	10K	1%	1/6W	
R129	1-215-447-00	METAL	12K	1%	1/6W	
R130	1-249-425-11	CARBON	4.7K	5%	1/4W	
R131	1-215-445-00	METAL	10K	1%	1/6W	
R132	1-215-449-00	METAL	15K	1%	1/6W	
R133	1-249-425-11	CARBON	4.7K	5%	1/4W	
R134	1-215-453-00	METAL	22K	1%	1/6W	
R135	1-249-429-11	CARBON	10K	5%	1/4W	
R136	1-249-423-11	CARBON	3.3K	5%	1/4W	
R137	1-249-423-11	CARBON	3.3K	5%	1/4W	
R138	1-249-423-11	CARBON	3.3K	5%	1/4W	
R139	1-249-425-11	CARBON	4.7K	5%	1/4W	
R140	1-249-417-11	CARBON	1K	5%	1/4W	
R141	1-249-421-11	CARBON	2.2K	5%	1/4W	
R142	1-249-421-11	CARBON	2.2K	5%	1/4W	
R143	1-249-417-11	CARBON	1K	5%	1/4W	
R144	1-249-421-11	CARBON	2.2K	5%	1/4W	
R145	1-249-423-11	CARBON	3.3K	5%	1/4W	
R146	1-249-437-11	CARBON	47K	5%	1/4W	
R147	1-249-421-11	CARBON	2.2K	5%	1/4W	
R148	1-249-437-11	CARBON	47K	5%	1/4W	
R149	1-249-417-11	CARBON	1K	5%	1/4W	
R150	1-215-461-00	METAL	47K	1%	1/6W	
R151	1-249-425-11	CARBON	4.7K	5%	1/4W	
R152	1-215-445-00	METAL	10K	1%	1/6W	
R153	1-215-445-00	METAL	10K	1%	1/6W	
R154	1-247-895-00	CARBON	470K	5%	1/4W	
R155	1-249-420-11	CARBON	1.8K	5%	1/4W	
R156	1-249-437-11	CARBON	47K	5%	1/4W	
R157	1-249-413-11	CARBON	470	5%	1/4W	
R158	1-249-405-11	CARBON	100	5%	1/4W	
R159	1-249-405-11	CARBON	100	5%	1/4W	
R160	1-249-417-11	CARBON	1K	5%	1/4W	
R161	1-215-467-00	METAL	82K	1%	1/6W	
R162	1-215-866-11	METAL OXIDE	330	5%	1W	F
R163	1-215-461-00	METAL	47K	1%	1/6W	
R164	1-249-421-11	CARBON	2.2K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R165	1-215-445-00	METAL	10K	1%	1/6W	
R166	1-249-429-11	CARBON	10K	5%	1/4W	
R167	1-249-437-11	CARBON	47K	5%	1/4W	
R168	1-249-429-11	CARBON	10K	5%	1/4W	
R169	1-247-725-11	CARBON	10K	5%	1/4W	F
R170	1-249-425-11	CARBON	4.7K	5%	1/4W	
R171	1-249-417-11	CARBON	1K	5%	1/4W	
R172	1-249-417-11	CARBON	1K	5%	1/4W	
R173	1-216-389-11	METAL OXIDE	1	5%	3W	F
R174	1-216-388-11	METAL OXIDE	0.82	5%	3W	F
R176	1-247-713-11	CARBON	1K	5%	1/4W	F
R177	1-215-445-00	METAL	10K	1%	1/6W	
R178	1-249-417-11	CARBON	1K	5%	1/4W	
R179	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-215-433-00	METAL	3.3K	1%	1/6W	
R181	1-249-441-11	CARBON	100K	5%	1/4W	
R182	1-249-421-11	CARBON	2.2K	5%	1/4W	
R183	1-249-405-11	CARBON	100	5%	1/4W	
R184	1-249-425-11	CARBON	4.7K	5%	1/4W	
R185	1-249-417-11	CARBON	1K	5%	1/4W	
R186	1-249-437-11	CARBON	47K	5%	1/4W	
R187	1-215-461-00	METAL	47K	1%	1/6W	
R188	1-249-431-11	CARBON	15K	5%	1/4W	
R189	1-249-429-11	CARBON	10K	5%	1/4W	
R190	1-215-883-11	METAL OXIDE	33	5%	2W	F
R191	1-249-423-11	CARBON	3.3K	5%	1/4W	
R192	1-249-433-11	CARBON	22K	5%	1/4W	
R193	1-247-903-00	CARBON	1M	5%	1/4W	
R194	1-249-423-11	CARBON	3.3K	5%	1/4W	
R195	1-249-423-11	CARBON	3.3K	5%	1/4W	
R196	1-247-883-00	CARBON	150K	5%	1/4W	
R197	1-249-405-11	CARBON	100	5%	1/4W	
R198	1-215-447-00	METAL	12K	1%	1/6W	
R199	1-249-423-11	CARBON	3.3K	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-249-417-11	CARBON	1K	5%	1/4W	
R203	1-249-453-11	CARBON	3.3	5%	1/4W	F
R204	1-249-429-11	CARBON	10K	5%	1/4W	
R205	1-249-427-11	CARBON	6.8K	5%	1/4W	
R206	1-249-429-11	CARBON	10K	5%	1/4W	
R207	1-249-441-11	CARBON	100K	5%	1/4W	
R208	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R209	1-249-417-11	CARBON	1K	5%	1/4W	
R210	1-215-451-00	METAL	18K	1%	1/6W	
R212	1-249-431-11	CARBON	15K	5%	1/4W	
R213	1-249-429-11	CARBON	10K	5%	1/4W	
R214	1-215-883-11	METAL OXIDE	33	5%	2W	F
R215	1-249-417-11	CARBON	1K	5%	1/4W	
R216	1-249-423-11	CARBON	3.3K	5%	1/4W	
R217	1-249-399-11	CARBON	33	5%	1/4W	
R218	1-249-417-11	CARBON	1K	5%	1/4W	F
R219	1-215-445-00	METAL	10K	1%	1/6W	
R220	1-215-445-00	METAL	10K	1%	1/6W	
R221	1-249-476-11	CARBON	1.5	5%	1/2W	F
R222	1-249-441-11	CARBON	100K	5%	1/4W	
R223	1-249-429-11	CARBON	10K	5%	1/4W	
R224	1-249-429-11	CARBON	10K	5%	1/4W	
R225	1-249-421-11	CARBON	2.2K	5%	1/4W	
R226	1-215-445-00	METAL	10K	1%	1/6W	
R227	1-249-429-11	CARBON	10K	5%	1/4W	
R228	1-249-429-11	CARBON	10K	5%	1/4W	
R229	1-249-429-11	CARBON	10K	5%	1/4W	
R230	1-249-443-11	CARBON	0.47	5%	1/4W	F

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R231	1-249-443-11	CARBON	0.47	5%	1/4W	F
R232	1-249-437-11	CARBON	47K	5%	1/4W	
R233	1-249-417-11	CARBON	1K	5%	1/4W	
R234	1-249-417-11	CARBON	1K	5%	1/4W	
R235	1-249-437-11	CARBON	47K	5%	1/4W	
R236	1-249-437-11	CARBON	47K	5%	1/4W	
R237	1-249-441-11	CARBON	100K	5%	1/4W	
R238	1-249-399-11	CARBON	33	5%	1/4W	
R239	1-249-423-11	CARBON	3.3K	5%	1/4W	
R240	1-249-441-11	CARBON	100K	5%	1/4W	
R241	1-249-437-11	CARBON	47K	5%	1/4W	
R242	1-215-461-00	METAL	47K	1%	1/6W	
R243	1-215-469-00	METAL	100K	1%	1/6W	
R244	1-249-423-11	CARBON	3.3K	5%	1/4W	
R245	1-216-441-00	METAL OXIDE	27K	5%	1W	F
R246	1-215-435-00	METAL	3.9K	1%	1/6W	
R247	1-249-421-11	CARBON	2.2K	5%	1/4W	
R248	1-249-425-11	CARBON	4.7K	5%	1/4W	
R249	1-215-421-00	METAL	1K	1%	1/6W	
R250	1-215-445-00	METAL	10K	1%	1/6W	
R251	1-247-887-00	CARBON	220K	5%	1/4W	
R252	1-249-429-11	CARBON	10K	5%	1/4W	
R254	1-249-405-11	CARBON	100	5%	1/4W	
R255	1-249-417-11	CARBON	1K	5%	1/4W	
R256	1-249-441-11	CARBON	100K	5%	1/4W	
R257	1-249-437-11	CARBON	47K	5%	1/4W	
R258	1-215-435-00	METAL	3.9K	1%	1/6W	
R259	1-215-439-00	METAL	5.6K	1%	1/6W	
R260	1-215-445-00	METAL	10K	1%	1/6W	
R261	1-249-429-11	CARBON	10K	5%	1/4W	
R262	1-249-405-11	CARBON	100	5%	1/4W	
R263	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R264	1-249-429-11	CARBON	10K	5%	1/4W	
R265	1-249-405-11	CARBON	100	5%	1/4W	
R266	1-249-441-11	CARBON	100K	5%	1/4W	
R267	1-215-379-00	METAL	18	1%	1/6W	
R268	1-215-379-00	METAL	18	1%	1/6W	
R269	1-215-421-00	METAL	1K	1%	1/6W	
R270	1-215-421-00	METAL	1K	1%	1/6W	
R271	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R272	1-249-453-11	CARBON	3.3	5%	1/4W	F
R273	1-249-429-11	CARBON	10K	5%	1/4W	
R274	1-249-429-11	CARBON	10K	5%	1/4W	
R275	1-249-429-11	CARBON	10K	5%	1/4W	
R276	1-249-429-11	CARBON	10K	5%	1/4W	
R277	1-249-431-11	CARBON	15K	5%	1/4W	
R278	1-249-429-11	CARBON	10K	5%	1/4W	
R279	1-249-417-11	CARBON	1K	5%	1/4W	
R280	1-215-883-11	METAL OXIDE	33	5%	2W	F
R281	1-249-451-11	CARBON	2.2	5%	1/4W	F
R282	1-249-451-11	CARBON	2.2	5%	1/4W	F
R283	1-249-425-11	CARBON	4.7K	5%	1/4W	
R284	1-215-467-00	METAL	82K	1%	1/6W	
R285	1-215-445-00	METAL	10K	1%	1/6W	
R286	1-215-911-11	METAL OXIDE	100	5%	3W	F
R287	1-202-846-00	SOLID	470K	10%	1/2W	
R288	1-202-846-00	SOLID	470K	10%	1/2W	
R289	1-202-846-00	SOLID	470K	10%	1/2W	
R290	1-202-846-00	SOLID	470K	10%	1/2W	
R291	1-249-421-11	CARBON	2.2K	5%	1/4W	
R292	1-249-421-11	CARBON	2.2K	5%	1/4W	
R293	1-249-437-11	CARBON	47K	5%	1/4W	
R294	1-249-437-11	CARBON	47K	5%	1/4W	
R295	1-249-453-11	CARBON	3.3	5%	1/4W	F
R296	1-249-429-11	CARBON	10K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV104	1-228-997-00	RES, ADJ, CARBON 100K	

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
T2	⚠.1-439-479-11	TRANSFORMER, LINE OUTPUT	
T3	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE	
T102	1-439-480-11	TRANSFORMER, HORIZONTAL OUTPUT	
T103	1-437-144-11	TRANSFORMER, FERRITE (HDT)	
T104	1-437-144-11	TRANSFORMER, FERRITE (HDT)	
T105	1-424-290-11	TRANSFORMER, DRIVE	

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*1-634-039-11 U BOARD
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*1-564-521-11 PLUG, CONNECTOR 6P

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J001	1-563-302-11	JACK BLOCK, PIN 2P	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
SW001	1-572-082-11	SWITCH, SLIDE	

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*A-1380-289-A K BOARD, COMPLETE
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*1-508-784-00 PIN, CONNECTOR (5MM PITCH) 1P
*1-564-506-11 PLUG, CONNECTOR 3P
*1-564-523-11 PLUG, CONNECTOR 8P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C201	1-123-875-11	ELECT	10MF	20%	50V	
C202	1-123-875-11	ELECT	10MF	20%	50V	
C203	1-101-004-00	CERAMIC	0.01MF		50V	
C204	1-101-004-00	CERAMIC	0.01MF		50V	
C205	1-101-004-00	CERAMIC	0.01MF		50V	
C206	1-101-004-00	CERAMIC	0.01MF		50V	
C207	1-124-927-11	ELECT	4.7MF	20%	50V	
C208	1-102-050-00	CERAMIC	0.01MF	99%	500V	
C209	1-124-791-11	ELECT	1MF	20%	50V	
C210	1-136-165-00	FILM	0.1MF	5%	50V	
C237	1-101-002-00	CERAMIC	0.0022MF		50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D201	8-719-110-17	DIODE RD10ES-B2	
D202	8-719-110-17	DIODE RD10ES-B2	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC201	8-759-109-82	IC UPC814C	
IC202	8-759-103-92	IC UPC318C	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q201	8-729-313-82	TRANSISTOR 2SD1138				
Q202	8-729-386-12	TRANSISTOR 2SB861				
Q203	8-729-143-42	TRANSISTOR 2SK929				
Q204	8-729-143-42	TRANSISTOR 2SK929				
		<RESISTOR>				
R201	1-249-435-11	CARBON	33K	5%	1/4W	
R202	1-249-421-11	CARBON	2.2K	5%	1/4W	
R203	1-249-437-11	CARBON	47K	5%	1/4W	
R204	1-249-405-11	CARBON	100	5%	1/4W	
R205	1-249-431-11	CARBON	15K	5%	1/4W	
R206	1-249-425-11	CARBON	4.7K	5%	1/4W	
R207	1-247-700-11	CARBON	100	5%	1/4W	F
R209	1-202-818-00	SOLID	1K	10%	1/2W	
R210	1-249-433-11	CARBON	22K	5%	1/4W	
R212	1-249-429-11	CARBON	10K	5%	1/4W	
R213	1-249-441-11	CARBON	100K	5%	1/4W	
R214	1-215-491-00	METAL	820K	1%	1/6W	
R215	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R216	1-215-419-00	METAL	820	1%	1/6W	
R217	1-249-425-11	CARBON	4.7K	5%	1/4W	
R218	1-249-429-11	CARBON	10K	5%	1/4W	
R219	1-247-713-11	CARBON	1K	5%	1/4W	F
R220	1-247-700-11	CARBON	100	5%	1/4W	F
R221	1-202-842-11	SOLID	220K	10%	1/2W	
R222	1-247-713-11	CARBON	1K	5%	1/4W	F
R223	1-215-904-11	METAL OXIDE	100K	5%	2W	F
R224	1-202-842-11	SOLID	220K	10%	1/2W	
R225	1-247-713-11	CARBON	1K	5%	1/4W	F
R226	1-249-451-11	CARBON	2.2	5%	1/4W	F
R227	1-249-451-11	CARBON	2.2	5%	1/4W	F
R239	1-202-818-00	SOLID	1K	10%	1/2W	
		<DISCHATGING GAP>				
SG201	1-519-063-XX	DISCHARGING GAP				
SG202	1-519-063-XX	DISCHARGING GAP				
		<TRANSFORMER>				
T201	1-424-287-11	TRANSFORMER, DYNAMIC FOCUS				

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*A-1380-290-A KA BOARD, COMPLETE
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	*1-564-506-11	PLUG, CONNECTOR 3P				
	*1-564-507-11	PLUG, CONNECTOR 4P				
	*1-564-509-11	PLUG, CONNECTOR 6P				
	*1-564-514-11	PLUG, CONNECTOR 11P				
	*2-261-207-00	HEAT SINK, AF OUT				
		<CAPACITOR>				
C001	1-101-004-00	CERAMIC	0.01MF		50V	
C002	1-123-875-11	ELECT	10MF	20%	50V	
C003	1-126-101-11	ELECT	100MF	20%	16V	
C004	1-101-004-00	CERAMIC	0.01MF		50V	
C005	1-123-875-11	ELECT	10MF	20%	50V	
C006	1-126-101-11	ELECT	100MF	20%	16V	
C007	1-123-382-00	ELECT	3.3MF	20%	50V	
C008	1-124-791-11	ELECT	1MF	20%	50V	
C009	1-126-233-11	ELECT	22MF	20%	50V	
C011	1-126-101-11	ELECT	100MF	20%	16V	

REF.NO.	PART NO.	DESCRIPTION				REMARK
C012	1-124-927-11	ELECT	4.7MF	20%	50V	
C013	1-126-233-11	ELECT	22MF	20%	50V	
C015	1-101-004-00	CERAMIC	0.01MF		50V	
C016	1-124-927-11	ELECT	4.7MF	20%	50V	
C017	1-126-101-11	ELECT	100MF	20%	16V	
C018	1-101-004-00	CERAMIC	0.01MF		50V	
C019	1-102-824-00	CERAMIC	470PF	10%	50V	
C020	1-136-153-00	FILM	0.01MF	5%	50V	
C021	1-102-824-00	CERAMIC	470PF	10%	50V	
C022	1-136-153-00	FILM	0.01MF	5%	50V	
C023	1-123-875-11	ELECT	10MF	20%	50V	
C024	1-124-120-11	ELECT	220MF	20%	16V	
C025	1-123-875-11	ELECT	10MF	20%	50V	
C027	1-123-875-11	ELECT	10MF	20%	50V	
C028	1-124-122-11	ELECT	100MF	20%	50V	
C030	1-124-122-11	ELECT	100MF	20%	50V	
C031	1-136-165-00	FILM	0.1MF	5%	50V	
C032	1-136-165-00	FILM	0.1MF	5%	50V	
C033	1-124-122-11	ELECT	100MF	20%	50V	
C034	1-124-122-11	ELECT	100MF	20%	50V	
C035	1-101-004-00	CERAMIC	0.01MF		50V	
C036	1-101-004-00	CERAMIC	0.01MF		50V	
C037	1-101-004-00	CERAMIC	0.01MF		50V	
C038	1-102-978-00	CERAMIC	220PF	10%	50V	
C039	1-102-978-00	CERAMIC	220PF	10%	50V	
C049	1-124-477-11	ELECT	47MF	20%	16V	
C050	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C051	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C052	1-124-477-11	ELECT	47MF	20%	16V	
C053	1-126-101-11	ELECT	100MF	20%	16V	
C054	1-126-101-11	ELECT	100MF	20%	16V	
C055	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C056	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C057	1-123-875-11	ELECT	10MF	20%	50V	
		<DIODE>				
D001	8-719-900-95	DIODE V09G				
D002	8-719-900-95	DIODE V09G				
D003	8-719-109-90	DIODE RD5.6ES-B3				
D005	8-719-150-59	DIODE RD13ES-B2				
D007	8-719-150-59	DIODE RD13ES-B2				
D008	8-719-911-19	DIODE 1SS119				
D009	8-719-911-19	DIODE 1SS119				
D010	8-719-911-19	DIODE 1SS119				
D011	8-719-911-19	DIODE 1SS119				
		<IC>				
IC001	8-759-604-39	IC M5F78M12				
IC002	8-759-982-55	IC RC79M12FA				
IC003	8-749-941-40	IC STK4141V				
IC004	8-759-233-33	IC MC74HC541N				
IC005	8-759-044-95	IC MC14495P1				
IC006	8-759-044-95	IC MC14495P1				
IC007	8-719-901-68	DIODE GL-6R202				
		<COIL>				
L001	1-410-671-31	INDUCTOR	47UH			
L002	1-410-671-31	INDUCTOR	47UH			
L003	1-410-671-31	INDUCTOR	47UH			
L004	1-410-464-11	INDUCTOR	3.3UH			
L005	1-410-464-11	INDUCTOR	3.3UH			

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<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q001	8-729-900-36	TRANSISTOR DTC124ES	
Q002	8-729-900-36	TRANSISTOR DTC124ES	
Q003	8-729-119-78	TRANSISTOR 2SC2785-F	
Q004	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q005	8-729-900-80	TRANSISTOR DTC114ES	
Q007	8-729-119-78	TRANSISTOR 2SC2785-F	
Q008	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q009	8-729-900-80	TRANSISTOR DTC114ES	
Q011	8-729-119-78	TRANSISTOR 2SC2785-F	
Q012	8-729-119-78	TRANSISTOR 2SC2785-F	
Q013	8-729-119-78	TRANSISTOR 2SC2785-F	
Q014	8-729-119-78	TRANSISTOR 2SC2785-F	
Q015	8-729-119-78	TRANSISTOR 2SC2785-F	
Q016	8-729-119-78	TRANSISTOR 2SC2785-F	
Q017	8-729-900-36	TRANSISTOR DTC124ES	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R001	1-249-405-11	CARBON	100	5%	1/4W	
R002	1-249-441-11	CARBON	100K	5%	1/4W	
R003	1-249-405-11	CARBON	100	5%	1/4W	
R004	1-215-463-00	METAL	56K	1%	1/6W	
R005	1-215-461-00	METAL	47K	1%	1/6W	
R006	1-249-429-11	CARBON	10K	5%	1/4W	
R007	1-249-430-11	CARBON	12K	5%	1/4W	
R008	1-249-405-11	CARBON	100	5%	1/4W	
R009	1-249-417-11	CARBON	1K	5%	1/4W	
R012	1-249-482-11	CARBON	4.7	5%	1/2W	
R013	1-249-482-11	CARBON	4.7	5%	1/2W	
R015	1-249-417-11	CARBON	1K	5%	1/4W	
R016	1-249-417-11	CARBON	1K	5%	1/4W	
R017	1-249-405-11	CARBON	100	5%	1/4W	
R018	1-249-425-11	CARBON	4.7K	5%	1/4W	
R019	1-249-420-11	CARBON	1.8K	5%	1/4W	
R020	1-249-427-11	CARBON	6.8K	5%	1/4W	
R021	1-249-429-11	CARBON	10K	5%	1/4W	
R022	1-249-430-11	CARBON	12K	5%	1/4W	
R023	1-249-405-11	CARBON	100	5%	1/4W	
R024	1-249-417-11	CARBON	1K	5%	1/4W	
R030	1-249-417-11	CARBON	1K	5%	1/4W	
R031	1-249-417-11	CARBON	1K	5%	1/4W	
R032	1-249-405-11	CARBON	100	5%	1/4W	
R033	1-249-425-11	CARBON	4.7K	5%	1/4W	
R034	1-249-420-11	CARBON	1.8K	5%	1/4W	
R035	1-249-427-11	CARBON	6.8K	5%	1/4W	
R036	1-249-437-11	CARBON	47K	5%	1/4W	
R037	1-249-437-11	CARBON	47K	5%	1/4W	
R038	1-249-437-11	CARBON	47K	5%	1/4W	
R039	1-249-425-11	CARBON	4.7K	5%	1/4W	
R040	1-249-429-11	CARBON	10K	5%	1/4W	
R041	1-249-425-11	CARBON	4.7K	5%	1/4W	
R042	1-249-427-11	CARBON	6.8K	5%	1/4W	
R043	1-249-417-11	CARBON	1K	5%	1/4W	
R044	1-249-438-11	CARBON	56K	5%	1/4W	
R045	1-249-417-11	CARBON	1K	5%	1/4W	
R046	1-249-438-11	CARBON	56K	5%	1/4W	
R047	1-249-415-11	CARBON	680	5%	1/4W	
R048	1-249-438-11	CARBON	56K	5%	1/4W	
R049	1-249-423-11	CARBON	3.3K	5%	1/4W	
R050	1-215-872-11	METAL OXIDE	3.3K	5%	1W	F
R051	1-249-405-11	CARBON	100	5%	1/4W	
R052	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R053	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R054	1-249-405-11	CARBON	100	5%	1/4W	
R055	1-249-423-11	CARBON	3.3K	5%	1/4W	
R056	1-249-438-11	CARBON	56K	5%	1/4W	
R057	1-215-872-11	METAL OXIDE	3.3K	5%	1W	F
R058	1-249-415-11	CARBON	680	5%	1/4W	
R059	1-249-389-11	CARBON	4.7	5%	1/4W	F
R060	1-249-389-11	CARBON	4.7	5%	1/4W	F
R061	1-249-405-11	CARBON	100	5%	1/4W	
R062	1-249-441-11	CARBON	100K	5%	1/4W	
R063	1-249-441-11	CARBON	100K	5%	1/4W	
R064	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R065	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R066	1-249-417-11	CARBON	1K	5%	1/4W	
R080	1-249-437-11	CARBON	47K	5%	1/4W	
R081	1-249-437-11	CARBON	47K	5%	1/4W	
R082	1-249-405-11	CARBON	100	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV001	1-228-991-00	RES, ADJ, CARBON 2.2K	
RV002	1-228-991-00	RES, ADJ, CARBON 2.2K	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-636-288-11	KB BOARD ********	
	*1-564-506-11	PLUG, CONNECTOR 3P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D015	8-719-911-19	DIODE 1SS119	
D016	8-719-911-19	DIODE 1SS119	
D017	8-719-911-19	DIODE 1SS119	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q020	8-729-900-63	TRANSISTOR DTA124ES	
Q021	8-729-900-63	TRANSISTOR DTA124ES	
Q022	8-729-900-63	TRANSISTOR DTA124ES	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R085	1-249-437-11	CARBON	47K	5%	1/4W	
R086	1-249-429-11	CARBON	10K	5%	1/4W	
R087	1-249-405-11	CARBON	100	5%	1/4W	
R088	1-249-425-11	CARBON	4.7K	5%	1/4W	
R089	1-249-437-11	CARBON	47K	5%	1/4W	
R090	1-249-429-11	CARBON	10K	5%	1/4W	
R091	1-249-405-11	CARBON	100	5%	1/4W	
R092	1-249-437-11	CARBON	47K	5%	1/4W	
R093	1-249-429-11	CARBON	10K	5%	1/4W	
R094	1-249-405-11	CARBON	100	5%	1/4W	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-634-041-11	N BOARD *******	
	*1-564-519-11	PLUG, CONNECTOR 4P	
	*4-337-475-00	HOLDER (D), LED	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C601	1-124-589-11	ELECT	47MF	20%	16V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D601	8-719-920-05	DIODE TLG123A
D602	8-719-812-31	DIODE TLR123

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC601	8-741-148-33	IC SBX1483-59

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			
R601	1-249-409-11	CARBON	220	5%	1/4W
R602	1-249-409-11	CARBON	220	5%	1/4W
R603	1-249-409-11	CARBON	220	5%	1/4W
R604	1-249-433-11	CARBON	22K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W

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*A-1394-213-A Y BOARD, COMPLETE
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PART NO.	DESCRIPTION
~~*1-526-950-11~~	~~SOCKET, IC 64P~~
*1-568-984-11	CONNECTOR, MALE 96P
1-570-204-21	SWITCH, KEY BOARD
1-570-598-11	SWITCH, DIP

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1	1-124-927-11	ELECT	4.7MF	20%	50V
C2	1-124-927-11	ELECT	4.7MF	20%	50V
C3	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C4	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C5	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C6	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C7	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C8	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C9	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C10	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C11	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C12	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C13	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C14	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C15	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C16	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C17	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C18	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C19	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C20	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C21	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C22	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C23	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C24	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C25	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C26	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C27	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C28	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C29	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C30	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C31	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C32	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C33	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C34	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C35	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C36	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C37	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C38	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C39	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C40	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C41	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C42	1-124-477-11	ELECT	47MF	20%	16V
C43	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C44	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C45	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C46	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C47	1-124-119-00	ELECT	330MF	20%	16V
C48	1-124-477-11	ELECT	47MF	20%	16V
C49	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C50	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C51	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C52	1-126-103-11	ELECT	470MF	20%	16V
C53	1-126-101-11	ELECT	100MF	20%	16V
C54	1-126-101-11	ELECT	100MF	20%	16V
C55	1-126-101-11	ELECT	100MF	20%	16V
C56	1-126-101-11	ELECT	100MF	20%	16V
C57	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
~~C58~~	~~1-163-093-00~~	~~CERAMIC CHIP~~	~~10PF~~	~~5%~~	~~50V~~
C59	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C60	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C61	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C62	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C63	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C64	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C65	1-163-036-00	CERAMIC CHIP	0.068MF		50V
C66	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C67	1-124-119-00	ELECT	330MF	20%	16V
C68	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C69	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C70	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C71	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C72	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C73	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C74	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C75	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C76	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C77	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D1	8-719-971-20	DIODE ERC38-06
D2	8-719-971-20	DIODE ERC38-06
D3	8-719-104-34	DIODE 1S2836
D4	8-719-800-60	DIODE TLR214
D5	8-719-104-34	DIODE 1S2836
D6	8-719-104-34	DIODE 1S2836

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC1	8-759-320-49	IC HD64180R1P8
IC2	8-759-746-99	IC MBM27C512-25
IC3	8-752-331-00	IC CXK5864BM-12L
IC4	8-759-748-05	IC UPD28C64C-20
IC5	8-759-925-80	IC SN74HC14NS

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC6	8-759-206-28	IC TC74HC123F	
IC7	8-759-008-21	IC MC74HC541F	
IC8	8-759-008-21	IC MC74HC541F	
IC9	8-759-995-97	IC MB8855-1314N	
IC10	8-759-984-56	IC MB670840PF	
IC11	8-759-984-59	IC MB654842UPF	
IC12	8-759-984-58	IC MB671469PF	
IC13	8-759-984-57	IC MB605195	
IC14	8-752-322-10	IC CXK5814P-45L	
IC15	8-752-333-84	IC CXK3864-040M	
IC16	8-752-333-85	IC CXK3864-041M	
IC17	8-752-333-86	IC CXK3864-042M	
IC18	8-759-301-24	IC HD10124	
IC19	8-759-301-24	IC HD10124	
IC20	*1-563-949-11	SOCKET, SIL 8P	
IC21	8-759-911-24	IC SN74S124N	
IC22	8-759-100-93	IC UPC393G2	
IC23	8-759-031-50	IC MC74F00M	
IC24	8-759-008-57	IC MC34051P	
IC25	8-759-100-93	IC UPC393G2	
IC26	8-759-032-01	IC MC74HC00AF	
IC27	8-759-925-98	IC SN74HC107NS	
IC28	8-759-032-01	IC MC74HC00AF	
IC29	8-759-206-28	IC TC74HC123	
		<COIL>	
L1	1-459-155-00	COIL (WITH CORE) 45UH	
L2	1-459-155-00	COIL (WITH CORE) 45UH	
L3	1-459-155-00	COIL (WITH CORE) 45UH	
L4	1-459-155-00	COIL (WITH CORE) 45UH	
		<IC LINK>	
PS1	⚠.1-532-679-91	LINK, IC (ICP-N15)	
PS2	⚠.1-532-679-91	LINK, IC (ICP-N15)	
		<TRANSISTOR>	
Q1	8-729-216-22	TRANSISTOR 2SA1162	
Q2	8-729-230-49	TRANSISTOR 2SC2712	
Q3	8-729-216-22	TRANSISTOR 2SA1162	
Q4	8-729-216-22	TRANSISTOR 2SA1162	
Q5	8-729-230-49	TRANSISTOR 2SC2712	
Q6	8-729-230-49	TRANSISTOR 2SC2712	
Q7	8-729-230-49	TRANSISTOR 2SC2712	
		<RESISTOR>	
R1	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R2	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R3	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R4	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R5	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R6	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R7	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R8	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R9	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R10	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R11	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R12	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R13	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R14	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R15	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R17	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R18	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R19	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R20	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R21	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R22	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R23	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R24	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R25	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R26	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R27	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R28	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R29	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R30	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R31	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R32	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R33	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R34	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R36	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R37	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R38	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R39	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R40	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R41	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R42	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R43	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R44	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R45	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R46	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R47	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R48	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R49	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R50	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R51	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R52	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R53	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R54	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R55	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R56	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R57	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R58	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R59	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R60	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R61	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R62	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R63	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R64	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R65	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R66	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R67	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R68	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R69	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R70	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R71	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R72	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R73	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R74	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R75	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R76	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R77	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R78	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R79	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R80	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R81	1-216-025-00	METAL GLAZE 100 5% 1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R82	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R83	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R84	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R85	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R86	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R87	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R88	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R89	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R90	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R91	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R92	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R93	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R94	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R95	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R96	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R97	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R98	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R99	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R100	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R101	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R103	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R104	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R105	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R106	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R107	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R108	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R109	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R110	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R111	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R112	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R113	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R114	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R115	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R116	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R117	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R118	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R119	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R120	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R121	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R122	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R123	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R124	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R125	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R126	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R127	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R128	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R129	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R130	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R131	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R132	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R133	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R134	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R135	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R136	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R137	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R138	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R139	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R140	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R141	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R142	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R143	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R144	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R145	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R146	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R147	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R148	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R149	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R150	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R151	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R152	1-216-025-00	METAL GLAZE	100	5%	1/10W	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION
X1	1-578-687-11	VIBRATOR, CRYSTAL
X2	1-567-252-11	VIBRATOR, CRYSTAL
X3	1-567-192-11	OSCILLATOR, CERAMIC
X4	1-577-353-11	VIBRATOR, CERAMIC

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*A-1499-937-A X BOARD, COMPLETE
****

PART NO.	DESCRIPTION
*1-568-982-11	CONNECTOR, FEMALE ~~96P~~
*1-568-983-11	CONNECTOR, FEMALE 96P
*1-568-984-11	CONNECTOR, MALE 96P
*4-353-708-00	HOOK, FINGER

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MI BOARD (SOPS1008B)
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PART NO.	DESCRIPTION
1-543-060-00	CORE
9-983-709-01	RUBBER (STB-CR07), RADIATION
*2-643-841-01	SHEET, INSULATING
*4-873-829-02	HEAT SINK

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C108	⚠.1-161-743-12	CERAMIC	0.0047MF		400V	
C109	1-125-593-11	ELECT(BLOCK)	2000MF	20%	250V	
C110	1-125-593-11	ELECT(BLOCK)	2000MF	20%	250V	
C111	1-125-593-11	ELECT(BLOCK)	2000MF	20%	250V	
C112	1-125-593-11	ELECT(BLOCK)	2000MF	20%	250V	
C114	1-136-626-11	FILM	1MF	10%	250V	
C115	1-136-626-11	FILM	1MF	10%	250V	
C116	1-136-626-11	FILM	1MF	10%	250V	
C117	1-136-626-11	FILM	1MF	10%	250V	
C118	1-161-915-00	CERAMIC	0.001MF	10%	500V	
C119	1-161-915-00	CERAMIC	0.001MF	10%	500V	
C120	1-136-202-11	FILM	0.33MF	5%	400V	
C121	1-136-202-11	FILM	0.33MF	5%	400V	
C122	1-161-742-00	CERAMIC	0.0022MF	20%	400V	
C124	⚠.1-161-743-12	CERAMIC	0.0047MF		400V	
C125	⚠.1-161-743-12	CERAMIC	0.0047MF		400V	
C126	⚠.1-161-743-12	CERAMIC	0.0047MF		400V	
C201	1-102-030-00	CERAMIC	330PF	10%	500V	
C202	1-102-030-00	CERAMIC	330PF	10%	500V	
C203	1-102-030-00	CERAMIC	330PF	10%	500V	
C204	1-102-030-00	CERAMIC	330PF	10%	500V	
C205	1-162-558-11	CERAMIC	100PF	10%	2KV	
C206	1-162-558-11	CERAMIC	100PF	10%	2KV	
C207	1-162-558-11	CERAMIC	100PF	10%	2KV	
C208	1-162-558-11	CERAMIC	100PF	10%	2KV	
C209	1-162-131-11	CERAMIC	220PF	10%	2KV	
C210	1-162-131-11	CERAMIC	220PF	10%	2KV	
C211	1-162-131-11	CERAMIC	220PF	10%	2KV	
C212	1-162-131-11	CERAMIC	220PF	10%	2KV	

M1

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C213	1-126-911-11	ELECT	47MF	0	200V
C214	1-126-911-11	ELECT	47MF	0	200V
C215	1-126-913-11	ELECT	220MF	0	160V
C216	1-126-913-11	ELECT	220MF	0	160V
C217	1-126-912-11	ELECT	33MF	0	250V
C218	1-126-913-11	ELECT	220MF	0	160V
C219	1-130-483-00	MYLAR	0.01MF	5%	50V
C221	1-130-493-00	MYLAR	0.068MF	5%	50V
C222	1-130-485-00	MYLAR	0.015MF	5%	50V
C223	1-130-485-00	MYLAR	0.015MF	5%	50V
C224	1-126-911-11	ELECT	47MF	0	200V
C225	1-123-875-11	ELECT	10MF	20%	50V
C226	1-124-478-11	ELECT	100MF	20%	25V
C227	1-124-443-00	ELECT	100MF	20%	10V
C228	1-130-495-00	MYLAR	0.1MF	5%	50V
C229	1-130-495-00	MYLAR	0.1MF	5%	50V
C230	1-124-902-00	ELECT	0.47MF	20%	50V
C231	1-161-925-00	CERAMIC	100PF	10%	500V
C232	1-161-925-00	CERAMIC	100PF	10%	500V

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
CN103	*1-535-419-00	TAB, FASTEN (PCB)
CN104	*1-535-419-00	TAB, FASTEN (PCB)
CN106	*1-560-549-00	PIN (WITH V CONNECTOR BASE) 3P
CN107	*1-535-419-00	TAB, FASTEN (PCB)
CN108	*1-535-419-00	TAB, FASTEN (PCB)
CN109	*1-535-419-00	TAB, FASTEN (PCB)
CN110	*1-535-419-00	TAB, FASTEN (PCB)
CN111	*1-535-419-00	TAB, FASTEN (PCB)
CN202	*1-560-894-00	PIN, CONNECTOR 6P

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D101	⚠.8-719-500-27	DIODE S15VB60
D102	8-807-913-21	DIODE 11EQS04
D103	8-807-913-21	DIODE 11EQS04
D201	8-719-971-20	DIODE ERC38-06
D202	8-719-971-20	DIODE ERC38-06
D203	8-719-971-20	DIODE ERC38-06
D204	8-719-971-20	DIODE ERC38-06
D205	8-719-979-28	DIODE ESAD39-06C
D206	8-719-979-29	DIODE ESAD39-06N
D207	8-719-911-55	DIODE U05G
D208	8-719-911-55	DIODE U05G
D209	8-719-109-89	DIODE RD5.6ES-B2
D210	8-719-911-19	DIODE 1SS119
D211	8-719-911-19	DIODE 1SS119
D213	8-719-110-88	DIODE RD39ES-B2
D214	8-719-110-88	DIODE RD39ES-B2
D215	8-719-911-19	DIODE 1SS119
D216	8-719-911-19	DIODE 1SS119
D218	8-719-912-20	DIODE 1SS120
D219	8-719-912-20	DIODE 1SS120
D220	8-719-911-19	DIODE 1SS119

<FUSE>

REF.NO.	PART NO.	DESCRIPTION
F103	⚠.1-532-496-11	FUSE, THERMO

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC201	8-759-135-80	IC UPC358C	
IC202	8-759-908-15	IC TL431CLP	
IC202	8-759-908-15	IC TL431CLPB	
IC203	8-759-135-80	IC UPC358C	
IC204	8-759-908-15	IC TL431CLP	

<COIL>

REF.NO.	PART NO.	DESCRIPTION
L104	1-424-058-11	LFT
L201	1-412-263-11	COIL,CHOKE(CCLU160708Z) 22MMH
L202	1-412-264-11	COIL,CHOKE(CCLU270817Z)1.36MMH
L203	1-408-949-11	COIL (WITH CORE) (CHOKE COIL)
L204	1-421-370-00	COIL, CHOKE

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q101	1-807-107-11	TRANSISTOR 2SK827
Q102	1-807-107-11	TRANSISTOR 2SK827
Q103	1-807-107-11	TRANSISTOR 2SK827
Q104	1-807-107-11	TRANSISTOR 2SK827
Q105	8-729-113-34	TRANSISTOR 2SB733-5
Q106	8-729-113-34	TRANSISTOR 2SB733-5
Q201	8-729-821-53	TRANSISTOR 2SC3042-N
Q202	8-729-105-97	TRANSISTOR 2SA1156-2K
Q203	8-729-175-22	TRANSISTOR 2SC2752-L
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q205	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q206	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q207	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q208	8-729-208-04	TRANSISTOR 2SK422
Q209	8-729-208-04	TRANSISTOR 2SK422

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R102	⚠.1-205-916-11	WIREWOUND	5	5%	20W	F
R103	⚠.1-205-916-11	WIREWOUND	5	5%	20W	F
R104	1-205-624-00	WIREWOUND	100	5%	5W	F
R105	1-247-696-11	CARBON	47	5%	1/4W	F
R106	1-247-696-11	CARBON	47	5%	1/4W	F
R107	1-247-696-11	CARBON	47	5%	1/4W	F
R108	1-247-696-11	CARBON	47	5%	1/4W	F
R109	1-249-421-11	CARBON	2.2K	5%	1/4W	
R110	1-249-421-11	CARBON	2.2K	5%	1/4W	
R111	1-205-624-00	WIREWOUND	100	5%	5W	F
R201	1-205-677-00	WIREWOUND	1K	5%	5W	F
R202	1-205-677-00	WIREWOUND	1K	5%	5W	F
R203	1-249-429-11	CARBON	10K	5%	1/4W	
R204	1-249-441-11	CARBON	100K	5%	1/4W	
R205	1-249-441-11	CARBON	100K	5%	1/4W	
R206	1-249-405-11	CARBON	100	5%	1/4W	
R207	1-249-417-11	CARBON	1K	5%	1/4W	
R208	1-215-477-00	METAL	220K	1%	1/6W	
R209	1-215-477-00	METAL	220K	1%	1/6W	
R210	1-215-445-00	METAL	10K	1%	1/6W	
R212	1-205-676-11	WIREWOUND	4.7	5%	5W	F
R213	1-215-477-00	METAL	220K	1%	1/6W	
R214	1-215-477-00	METAL	220K	1%	1/6W	
R215	1-215-445-00	METAL	10K	1%	1/6W	
R216	1-249-424-11	CARBON	3.9K	5%	1/4W	
R217	1-247-887-00	CARBON	220K	5%	1/4W	
R218	1-247-887-00	CARBON	220K	5%	1/4W	
R219	1-247-895-00	CARBON	470K	5%	1/4W	
R220	1-247-903-00	CARBON	1M	5%	1/4W	
R221	1-249-419-11	CARBON	1.5K	5%	1/4W	
R222	1-249-417-11	CARBON	1K	5%	1/4W	
R223	1-249-426-11	CARBON	5.6K	5%	1/4W	
R224	1-249-425-11	CARBON	4.7K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

• ※ : Selected to yield optimum performance.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R226	1-247-747-11	CARBON	470	5%	1/2W	F
R227	1-247-747-11	CARBON	470	5%	1/2W	F
R228	1-215-431-00	METAL	2.7K	1%	1/6W	
※R229	1-215-456-00	METAL	30K	1%	1/6W	
※R229	1-215-457-00	METAL	33K	1%	1/6W	
※R229	1-215-458-00	METAL	36K	1%	1/6W	
※R229	1-215-459-00	METAL	39K	1%	1/6W	
※R229	1-215-460-00	METAL	43K	1%	1/6W	
※R229	1-215-461-00	METAL	47K	1%	1/6W	
※R229	1-215-462-00	METAL	51K	1%	1/6W	
※R229	1-215-463-00	METAL	56K	1%	1/6W	
※R229	1-215-464-00	METAL	62K	1%	1/6W	
R230	1-249-426-11	CARBON	5.6K	5%	1/4W	
R231	1-249-426-11	CARBON	5.6K	5%	1/4W	
R232	1-215-473-00	METAL	150K	1%	1/6W	
R233	1-215-441-00	METAL	6.8K	1%	1/6W	
R234	1-215-469-00	METAL	100K	1%	1/6W	
R235	1-215-469-00	METAL	100K	1%	1/6W	
R236	1-215-436-00	METAL	4.3K	1%	1/6W	
R237	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R238	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R239	1-205-677-00	WIREWOUND	1K	5%	5W	F
R240	1-205-677-00	WIREWOUND	1K	5%	5W	F
R241	1-249-432-11	CARBON	18K	5%	1/4W	
R242	1-249-426-11	CARBON	5.6K	5%	1/4W	
R243	1-249-431-11	CARBON	15K	5%	1/4W	
R244	1-249-413-11	CARBON	470	5%	1/4W	
R245	1-249-431-11	CARBON	15K	5%	1/4W	
R246	1-247-893-11	CARBON	390K	5%	1/4W	
R247	1-215-465-00	METAL	68K	1%	1/6W	
R248	1-215-433-00	METAL	3.3K	1%	1/6W	
R249	1-215-465-00	METAL	68K	1%	1/6W	
R250	1-215-465-00	METAL	68K	1%	1/6W	
R251	1-215-433-00	METAL	3.3K	1%	1/6W	
R252	1-215-447-00	METAL	12K	1%	1/6W	
R253	1-215-447-00	METAL	12K	1%	1/6W	
R254	1-215-413-00	METAL	470	1%	1/6W	
R255	1-216-377-11	METAL OXIDE	4.7	5%	2W	F

<VARIABLE RESISTOR>

RV201	1-228-990-00	RES, ADJ, METAL GLAZE 1K
RV202	1-228-990-00	RES, ADJ, METAL GLAZE 1K

<RELAY>

RY101⚠	1-515-450-12	RELAY, POWER

<TRANSFORMER>

T101 ⚠.	1-449-845-11	TRANSFORMER, CONVERTER
T102 ⚠.	1-421-819-11	TRANSFORMER, CURRENT
T103 ⚠.	1-437-188-11	TRANSFORMER, DRIVE
T104 ⚠.	1-437-188-11	TRANSFORMER, DRIVE

<ARRESTER>

VZ101⚠	1-576-084-11	ARRESTER, GUS TUBE (M2P-470L)

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CI BOARD (SOPS1008B)
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C51	1-130-471-00	MYLAR	0.001MF	5%	50V
C52	1-130-471-00	MYLAR	0.001MF	5%	50V
C53	1-124-902-00	ELECT	0.47MF	20%	50V
C54	1-124-478-11	ELECT	100MF	20%	25V
C56	1-130-483-00	MYLAR	0.01MF	5%	50V
C57	1-130-495-00	MYLAR	0.1MF	5%	50V
C58	1-124-910-11	ELECT	47MF	20%	50V
C59	1-124-902-00	ELECT	0.47MF	20%	50V

<CONNECTOR>

CN51	*1-560-741-00	PIN, CONNECTOR 12P
CN52	*1-564-517-11	PLUG, CONNECTOR 2P

<DIODE>

D51	8-807-913-21	DIODE 11EQS04
D52	8-807-913-21	DIODE 11EQS04
D53	8-807-913-21	DIODE 11EQS04
D54	8-807-913-21	DIODE 11EQS04
D55	8-807-913-21	DIODE 11EQS04
D56	8-807-913-21	DIODE 11EQS04
D57	8-719-911-19	DIODE 1SS119
D58	8-719-107-87	THYRISTOR 03P2M
D59	8-719-911-19	DIODE 1SS119

<IC>

IC51	8-759-906-62	IC MB3759-SNY

<COIL>

L51	1-410-466-41	INDUCTOR	4.7UH

<TRANSISTOR>

Q53	8-729-119-76	TRANSISTOR 2SA1175-HFE

<RESISTOR>

R51	1-249-410-11	CARBON	270	5%	1/4W
R52	1-249-417-11	CARBON	1K	5%	1/4W
R53	1-249-417-11	CARBON	1K	5%	1/4W
R54	1-249-417-11	CARBON	1K	5%	1/4W
R56	1-249-433-11	CARBON	22K	5%	1/4W
R57	1-247-897-11	CARBON	560K	5%	1/4W
R58	1-249-437-11	CARBON	47K	5%	1/4W
R59	1-249-405-11	CARBON	100	5%	1/4W
R60	1-247-885-00	CARBON	180K	5%	1/4W
R61	1-249-421-11	CARBON	2.2K	5%	1/4W
R62	1-249-421-11	CARBON	2.2K	5%	1/4W
R63	1-249-421-11	CARBON	2.2K	5%	1/4W
R64	1-247-895-00	CARBON	470K	5%	1/4W
R65	1-249-425-11	CARBON	4.7K	5%	1/4W
R66	1-249-426-11	CARBON	5.6K	5%	1/4W
R67	1-249-425-11	CARBON	4.7K	5%	1/4W
R68	1-249-415-11	CARBON	680	5%	1/4W
R69	1-249-405-11	CARBON	100	5%	1/4W
R70	1-249-421-11	CARBON	2.2K	5%	1/4W
R71	1-215-469-00	METAL	100K	1%	1/6W

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M2

REF.NO.	PART NO.	DESCRIPTION			REMARK
		M2 BOARD (SOPS1008B) ********			
	1-543-060-00	CORE			
		<CAPACITOR>			
C151	1-125-592-11	ELECT(BLOCK)	270MF	20%	400V
C152	1-136-626-11	FILM	1MF	10%	250V
C153	1-136-626-11	FILM	1MF	10%	250V
C154	1-161-915-00	CERAMIC	0.001MF	10%	500V
C155	1-161-915-00	CERAMIC	0.001MF	10%	500V
C156	1-136-209-11	FILM	0.1MF	10%	400V
C157	1-130-491-00	MYLAR	0.047MF	5%	50V
C158	1-130-475-00	MYLAR	0.0022MF	5%	50V
C165	1-126-233-11	ELECT	22MF	20%	25V
C166	1-136-626-11	FILM	1MF	10%	250V
C167	1-136-626-11	FILM	1MF	10%	250V
C168	1-136-202-11	FILM	0.33MF	5%	400V
C169	1-136-202-11	FILM	0.33MF	5%	400V
C170	1-161-742-00	CERAMIC	0.0022MF	20%	400V
C251	1-162-659-11	CERAMIC	0.0015MF	10%	500V
C252	1-162-659-11	CERAMIC	0.0015MF	10%	500V
C253	1-161-925-00	CERAMIC	100PF	10%	500V
C254	1-161-925-00	CERAMIC	100PF	10%	500V
C255	1-161-925-00	CERAMIC	100PF	10%	500V
C256	1-161-925-00	CERAMIC	100PF	10%	500V
C257	1-161-925-00	CERAMIC	100PF	10%	500V
C258	1-161-925-00	CERAMIC	100PF	10%	500V
C259	1-161-925-00	CERAMIC	100PF	10%	500V
C260	1-161-925-00	CERAMIC	100PF	10%	500V
C261	1-161-925-00	CERAMIC	100PF	10%	500V
C262	1-161-925-00	CERAMIC	100PF	10%	500V
C263	1-161-925-00	CERAMIC	100PF	10%	500V
C264	1-161-925-00	CERAMIC	100PF	10%	500V
C265	1-124-473-11	ELECT	1000MF	20%	10V
C266	1-124-473-11	ELECT	1000MF	20%	10V
C267	1-124-636-00	ELECT	3300MF	20%	25V
C268	1-124-636-00	ELECT	3300MF	20%	25V
C269	1-124-913-11	ELECT	470MF	20%	50V
C270	1-124-913-11	ELECT	470MF	20%	50V
C271	1-124-472-11	ELECT	470MF	20%	6.3V
C272	1-124-472-11	ELECT	470MF	20%	6.3V
C273	1-124-480-11	ELECT	470MF	20%	25V
C274	1-124-480-11	ELECT	470MF	20%	25V
C275	1-124-122-11	ELECT	100MF	20%	50V
C276	1-124-122-11	ELECT	100MF	20%	50V
C278	1-130-489-00	MYLAR	0.033MF	5%	50V
C279	1-130-485-00	MYLAR	0.015MF	5%	50V
C280	1-130-485-00	MYLAR	0.015MF	5%	50V
C281	1-130-495-00	MYLAR	0.1MF	5%	50V
C282	1-130-495-00	MYLAR	0.1MF	5%	50V
C283	1-124-442-00	ELECT	330MF	20%	6.3V
C284	1-124-556-11	ELECT	2200MF	20%	16V
C285	1-124-478-11	ELECT	100MF	20%	25V
C286	1-124-360-00	ELECT	1000MF	20%	16V
C287	1-123-875-11	ELECT	10MF	20%	50V
C288	1-126-103-11	ELECT	470MF	20%	16V
C289	1-124-902-00	ELECT	0.47MF	20%	50V
C290	1-124-478-11	ELECT	100MF	20%	25V
C291	1-130-495-00	MYLAR	0.1MF	5%	50V
C292	1-130-495-00	MYLAR	0.1MF	5%	50V
C293	1-161-925-00	CERAMIC	100PF	10%	500V
C294	1-161-925-00	CERAMIC	100PF	10%	500V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C295	1-161-925-00	CERAMIC	100PF	10%	500V
C296	1-161-925-00	CERAMIC	100PF	10%	500V
C297	1-161-925-00	CERAMIC	100PF	10%	500V
C298	1-161-925-00	CERAMIC	100PF	10%	500V
		<CONNECTOR>			
CN151	*1-560-549-00	PIN (WITH V CONNECTOR BASE) 3P			
CN252	*1-560-894-00	PIN, CONNECTOR 6P			
CN254	*1-560-891-00	PIN, CONNECTOR 3P			
CN255	*1-560-891-00	PIN, CONNECTOR 3P			
		<DIODE>			
D151	8-807-913-21	DIODE 11EQS04			
D152	8-807-913-21	DIODE 11EQS04			
D153	8-719-300-70	DIODE RH-1C			
D154	8-719-912-20	DIODE 1SS120			
D155	8-719-912-20	DIODE 1SS120			
D156	8-719-109-89	DIODE RD5.6ES-B2			
D158	8-719-912-20	DIODE 1SS120			
D159	8-719-912-20	DIODE 1SS120			
D251	8-719-302-81	DIODE FMG-24S			
D252	1-807-793-11	DIODE FML-22S			
D253	8-719-302-60	DIODE FML-32S			
D254	1-807-793-21	DIODE FML-22R			
D255	1-807-793-21	DIODE FML-22R			
D256	8-719-302-82	DIODE FMG-24R			
D265	8-719-110-88	DIODE RD39ES-B2			
D266	8-719-110-88	DIODE RD39ES-B2			
D267	8-719-200-02	DIODE 10E-2			
D268	8-719-200-02	DIODE 10E-2			
D270	8-719-911-19	DIODE 1SS119			
D271	8-719-911-19	DIODE 1SS119			
D272	8-719-911-19	DIODE 1SS119			
D273	8-719-911-19	DIODE 1SS119			
D274	8-719-911-19	DIODE 1SS119			
D275	8-719-911-19	DIODE 1SS119			
D276	8-719-109-89	DIODE RD5.6ES-B2			
D277	8-719-110-41	DIODE RD15ES-B2			
D278	8-719-110-48	DIODE RD18ES-B1			
D279	8-719-109-97	DIODE RD6.8ES-B2			
D280	8-719-110-33	DIODE RD12ES-B3			
D281	1-807-774-11	DIODE AU02A			
D282	8-807-913-21	DIODE 11EQS04			
D283	8-719-109-84	DIODE RD5.1ES-B1			
D284	8-719-109-97	DIODE RD6.8ES-B2			
D285	8-719-911-19	DIODE 1SS119			
D286	8-719-911-19	DIODE 1SS119			
		<IC>			
IC251	8-759-908-15	IC TL431CLP			
IC252	8-759-135-80	IC UPC358C			
IC253	8-759-143-00	IC UPC7805HF			
		<COIL>			
L151	1-424-058-11	LFT			
L251	1-412-266-11	COIL,CHOKE (CCL U230914Z)136UH			
L252	1-412-266-11	COIL,CHOKE (CCL U230914Z)136UH			
L253	1-412-265-11	COIL,CHOKE(CCLU230914Z)2.25MMH			
L254	1-421-465-00	COIL, FERRITE CHOKE 68UH			
L255	1-421-370-00	COIL, CHOKE			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

M2 **C2**

REF.NO.	PART NO.	DESCRIPTION	REMARK
L256	1-421-370-00	COIL, CHOKE	
L257	1-421-370-00	COIL, CHOKE	
L258	1-421-370-00	COIL, CHOKE	
L259	1-421-465-00	COIL, FERRITE CHOKE 68UH	

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION
PS151	⚠1-532-605-11	LINK, IC
PS152	⚠1-532-679-11	LINK, IC

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q151	1-808-107-11	TRANSISTOR 2SK827
	9-983-709-01	RUBBER (STB-CR07), RADIATION ;Q151
Q152	1-808-107-11	TRANSISTOR 2SK827
	9-983-709-01	RUBBER (STB-CR07), RADIATION ;Q152
Q153	8-729-113-34	TRANSISTOR 2SB733-4
Q154	8-729-113-34	TRANSISTOR 2SB733-4
Q155	8-729-802-08	TRANSISTOR 2SC3150
Q156	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q251	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q252	8-729-188-23	TRANSISTOR 2SD882-P
	9-983-709-01	RUBBER (STB-CR07), RADIATION ; Q252
Q253	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q254	8-729-140-97	TRANSISTOR 2SB734-34
Q255	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q256	8-729-208-04	TRANSISTOR 2SK422
Q257	~~8-729-208-04~~	~~TRANSISTOR 2SK422~~
Q258	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q259	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q260	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R151	1-205-652-00	WIREWOUND	68	5%	5W	F
R152	1-247-696-11	CARBON	47	5%	1/4W	F
R153	1-247-696-11	CARBON	47	5%	1/4W	F
R154	1-247-717-11	CARBON	2.2K	5%	1/4W	
R155	1-247-717-11	CARBON	2.2K	5%	1/4W	
R156	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R157	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R158	1-246-539-00	CARBON	560K	5%	1/4W	
R159	1-246-539-00	CARBON	560K	5%	1/4W	
R160	1-247-733-11	CARBON	33	5%	1/2W	
R161	1-247-713-11	CARBON	1K	5%	1/4W	
R162	1-249-407-11	CARBON	150	5%	1/4W	
R163	1-249-390-11	CARBON	5.6	5%	1/4W	
R164	1-249-405-11	CARBON	100	5%	1/4W	
R165	1-247-741-11	CARBON	150	5%	1/2W	F
R166	1-249-393-11	CARBON	10	5%	1/4W	
R251	1-205-622-00	WIREWOUND	33	5%	5W	F
R252	1-205-622-00	WIREWOUND	33	5%	5W	F
R253	1-216-359-00	METAL OXIDE	6.8	5%	1W	F
R254	1-247-747-11	CARBON	470	5%	1/2W	
R255	1-247-747-11	CARBON	470	5%	1/2W	
R256	1-249-434-11	CARBON	27K	5%	1/4W	
R258	1-249-437-11	CARBON	47K	5%	1/4W	
R259	1-249-435-11	CARBON	33K	5%	1/4W	
R260	1-249-417-11	CARBON	1K	5%	1/4W	
R261	1-215-424-00	METAL	1.3K	1%	1/6W	
R262	1-249-417-11	CARBON	1K	5%	1/4W	
R263	1-215-452-00	METAL	20K	1%	1/6W	
R264	1-249-417-11	CARBON	1K	5%	1/4W	
R265	1-215-448-00	METAL	13K	1%	1/6W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R266	1-215-420-00	METAL	910	1%	1/6W	
R267	1-205-911-11	WIREWOUND	10	5%	5W	F
R268	1-247-711-11	CARBON	680	5%	1/4W	
R269	1-247-700-11	CARBON	100	5%	1/4W	
R270	1-215-430-00	METAL	2.4K	1%	1/6W	
R271	1-249-421-11	CARBON	2.2K	5%	1/4W	
R272	1-249-397-11	CARBON	22	5%	1/4W	
R273	1-249-419-11	CARBON	1.5K	5%	1/4W	
R274	1-249-432-11	CARBON	18K	5%	1/4W	
R275	1-249-421-11	CARBON	2.2K	5%	1/4W	
R276	1-249-421-11	CARBON	2.2K	5%	1/4W	
R277	1-249-421-11	CARBON	2.2K	5%	1/4W	
R278	1-249-429-11	CARBON	10K	5%	1/4W	
R279	1-249-429-11	CARBON	10K	5%	1/4W	
R280	1-249-417-11	CARBON	1K	5%	1/4W	
R281	1-249-429-11	CARBON	10K	5%	1/4W	
R282	1-249-429-11	CARBON	10K	5%	1/4W	
R283	1-249-431-11	CARBON	15K	5%	1/4W	
R284	1-249-429-11	CARBON	10K	5%	1/4W	
R285	1-249-417-11	CARBON	1K	5%	1/4W	
R286	1-249-429-11	CARBON	10K	5%	1/4W	
R287	1-249-429-11	CARBON	10K	5%	1/4W	
R288	1-249-431-11	CARBON	15K	5%	1/4W	
R289	1-249-429-11	CARBON	10K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION
RV251	1-228-990-00	RES, ADJ, METAL GLAZE 1K

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION
T151	⚠1-449-846-11	TRANSFORMER, CONVERTER
T152	⚠1-421-819-11	TRANSFORMER, CURRENT
T153	⚠1-437-188-11	TRANSFORMER, DRIVE
T154	⚠1-437-188-11	TRANSFORMER, DRIVE
T155	⚠1-449-847-11	TRANSFORMER, CONVERTER

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C2 BOARD (SOPS1008B)
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			
C51	1-130-471-00	MYLAR	0.001MF	5%	50V
C52	1-130-471-00	MYLAR	0.001MF	5%	50V
C53	1-124-902-00	ELECT	0.47MF	20%	50V
C54	1-124-478-11	ELECT	100MF	20%	25V
C55	1-130-471-00	FILM	0.001MF	5%	50V
C56	1-130-481-00	MYLAR	0.0068MF	5%	50V
C57	1-130-495-00	MYLAR	0.1MF	5%	50V
C58	1-123-875-11	ELECT	10MF	20%	50V
C59	1-123-875-11	ELECT	10MF	20%	50V

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
CN51	*1-560-741-00	PIN, CONNECTOR 12P
CN52	*1-564-517-11	PLUG, CONNECTOR 2P

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D51	8-719-911-19	DIODE 1SS119
D52	8-719-911-19	DIODE 1SS119
D53	8-719-911-19	DIODE 1SS119
D54	8-719-911-19	DIODE 1SS119
D55	8-807-913-21	DIODE 11EQS04

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D56	8-807-913-21	DIODE 11EQS04	
D57	8-719-911-19	DIODE 1SS119	
D58	8-719-107-87	THYRISTOR 03P2M	
D59	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC51	8-759-906-62	IC MB3759-SNY	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L51	1-410-466-41	INDUCTOR 4.7UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q53	8-729-119-76	TRANSISTOR 2SA1175-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R51	1-249-411-11	CARBON	330	5%	1/4W	
R52	1-249-410-11	CARBON	270	5%	1/4W	
R53	1-249-417-11	CARBON	1K	5%	1/4W	
R54	1-249-417-11	CARBON	1K	5%	1/4W	
R55	1-215-437-00	METAL	4.7K	1%	1/6W	
R56	1-247-903-00	CARBON	1M	5%	1/4W	
R57	1-247-897-11	CARBON	560K	5%	1/4W	
R58	1-249-433-11	CARBON	22K	5%	1/4W	
R59	1-249-417-11	CARBON	1K	5%	1/4W	
R60	1-249-425-11	CARBON	4.7K	5%	1/4W	
R61	1-249-421-11	CARBON	2.2K	5%	1/4W	
R62	1-249-425-11	CARBON	4.7K	5%	1/4W	
R63	1-249-425-11	CARBON	4.7K	5%	1/4W	
R64	1-247-895-00	CARBON	470K	5%	1/4W	
R65	1-249-425-11	CARBON	4.7K	5%	1/4W	
R66	1-249-423-11	CARBON	3.3K	5%	1/4W	
R67	1-249-426-11	CARBON	5.6K	5%	1/4W	
R68	1-249-415-11	CARBON	680	5%	1/4W	
R69	1-249-405-11	CARBON	100	5%	1/4W	
R70	1-249-421-11	CARBON	2.2K	5%	1/4W	
R71	1-249-427-11	CARBON	6.8K	5%	1/4W	

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MISCELLANEOUS

REF.NO.	PART NO.	DESCRIPTION	REMARK
	⚠.1-238-755-11	RESISTOR ASSY, HIGH-VOLTAGE	
	⚠.1-413-483-13	REGULATOR, SWITCHING(SOPS1008B)	
	⚠.1-451-355-11	DEFLECTION YOKE (Y636PJ)	
	⚠.1-452-443-13	NECK ASSY, CRT (NA367)	
	⚠.1-452-487-31	NECK ASSY, CRT (NA363A)	
	⚠.1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
	⚠.1-453-108-31	DC BLOCK, HIGH-VOLTAGE	
	1-466-239-11	INPUT UNIT, RGB	
	1-541-702-11	FAN, DC	
	1-541-703-11	FAN, DC	
	*1-555-110-00	CABLE, P-P	
	⚠.1-559-865-31	LEAD ASSY, HIGH-VOLTAGE	
	*1-575-091-11	CABLE, P-P	
	1-575-092-11	CONNECTOR ASSY, MULTI 14P	
	1-575-100-11	CABLE, MINIATURE PLUG	
	⚠.1-575-175-11	CORD SET, POWER	
	⚠.1-236-604-11	FILTER, BLOCK NOISE (M3B BOARD)	
	⚠.1-439-466-11	LEAD ASSY, HIGH-VOLTAGE	
	1-503-917-11	SPEAKER	
	⚠.1-560-222-11	3P INLETALIZED	
	1-533-224-11	HOLDER, FUSE (DIA. 5.2)	
C901	1-136-951-11	CAP, METALIZED FILM 0.1MF 20% 25V	
C902	1-136-951-11	CAP, METALIZED FILM 0.1MF 20% 25V	
C903	1-136-951-11	CAP, METALIZED FILM 0.1MF 20% 25V	
F901	⚠.1-532-325-00	FUSE, TIME-LAG 6.3A/250V	
R901	1-202-719-00	RES, SOLID 1.00M 10% 1/2W	
SW901	⚠.1-572-067-21	SWITCH, PUSH (AC POWER) (1 KEY)	
T901	⚠.1-944-506-12	HARNESS (P)	
V901	⚠.8-736-623-00	CRT 07MJ(R)	
V902	⚠.8-736-621-00	CRT 07MJ(G)	
V903	⚠.8-736-622-00	CRT 07MJ(B)	

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ACCESSORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION
A-1470-892-A	COMMANDER ASSY (RM-1270)
*A-1499-937-A	X BOARD, COMPLETE
*X-4029-179-1	PANEL ASSY
*X-4029-180-1	PANEL ASSY
*X-4395-584-1	PLATE ASSY, BOTTOM
*X-4395-585-1	PLATE ASSY, BOTTOM
1-575-100-11	CABLE, MINIATURE PLUG
~~⚠.1-575-175-11~~	~~CODE, POWER~~
2-357-277-01	PANEL, FRONT
3-562-223-00	TERMINAL BOARD, POSITIVE
*3-674-673-01	STOPPER (A)
3-751-394-11	MANUAL, INSTRUCTION
3-751-397-11	MANUAL, INSTRUCTION
4-374-469-01	FOOT, RUBBER
4-395-501-01	KEY TOP
4-395-502-01	LID (A)
4-395-503-01	LID (B)
4-395-504-01	COVER, BATTERY
4-395-508-01	CASE, LOWER
4-395-509-01	SHEET, RUBBER
*4-395-902-01	BAG, PROTECTION
*4-396-287-01	SPACER
*4-396-288-01	BOX, ACCESSORY
*4-396-908-01	SPACER
*4-396-931-01	BAG, POLYETHYLENE
*4-396-932-01	SPACER, SCREEN
*4-396-933-02	LID
*4-396-936-02	CARTON, SCREEN
*4-396-937-02	CUSHION (LEFT UPPER)
*4-396-938-02	CUSHION (RIGHT UPPER)
*4-396-939-02	CUSHION (LEFT LOWER)
*4-396-940-02	CUSHION (RIGHT LOWER)
*4-396-942-01	LID
*4-398-727-01	CAP
*4-603-966-01	STOPPER (LARGE), SPEED
4-901-459-01	SPRING
7-682-670-09	SCREW +PSW 4X40
7-683-561-17	BOLT, WING 6X15 TYPE2
7-683-565-17	BOLT, WING 6X40 TYPE2
7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT